April 1976 Number 380-Part I

Solar-Geophysical Data prompt reports

Data for March 1976–February 1976

Explanation of Data Reports Issued as Number 378 (Supplement) February 1976

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NEW DATA PAGE 34

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Solar - Geophysical Data

NO. 380 APRIL 1976

Part I (Prompt Reports)

DATA FOR
MARCH 1976
FEBRUARY 1976

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

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SOLAR - GEOPHYSICAL DATA

No. 380

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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Note: A = Part I, B = Part II.

374A 28 listed under 1975 Aug shows that data for August 1975 were contained in *Solar-Geophysical Data* Number 374 - Part I beginning on page 28.

Errata: In "Solar-Geophysical Data, Explanation of Data Reports" published February 1976 the "Key" to the index for 1975 on page 83 is in error on five lines. A.11g should read A.11e; A.11h read A.11g; A.12ba read A.11h; A.12bb read A.12ba; and A.12d read A.12bb.

MARCH 1976 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MARCH 1976

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

BOULDER 08/0338Z MAGSTORM BEGINS GRADUALLY 06/2200Z, K = 5 AT 08/0110Z, SECOND K = 5 AT 08/0330Z.
BOULDER 23/1500Z TENFLARE 550 FLUX UNITS 23/0840Z 51 MINUTES DURATION.
BOULDER 26/0400Z RECURRENT MAGSTORM BEGINS 26/0240Z.
BOULDER 28/1940Z TENFLARE 2235 FLUX UNITS 28/1937Z APPARENT MAXIMUM.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
61	1	29	00	69	23	-	0	0	0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	1	SPOTNIL		SOLQUIET MAGALERT MINOR 01 STRATWARM ALERT /MONDAY/ STRATWARM EXISTS NORTHEASTERN ASIA
62	2	1	00	69	18	-	0	0	0		2	SPOTNIL		SOLQUIET MAGALERT MINOR 02 STRATWARM ALERT /TUESDAY/ STRATWARM EXISTS NORTHEASTERN ASIA
63	3	2	00	69	16	-	0	0	0		3	SPOTNIL		SOLQUIET MAGALERT MINOR 03 STRATWARM ALERT /WEDNESDAY/ STRATWARM EXISTS NORTHERN SIBERIA
64	4	3	00	69	19	-	0	0	0		4	SPOTNIL		SOLQUIET MAGALERT MINOR 04/06 STRATWARM ALERT /THURSDAY/ STRATWARM EXISTS MINOR WARMING OVER ARCTIC SIBERIA IN MID-STRATOSPHERE. WARM AIR STRETCHING ACROSS POLE IN UPPER STRATOSPHERE
65	5	4	00	69	11	-	0	0	0		5	SPOTNIL		SOLQUIET MAGALERT 05/08 STRATWARM ALERT /FRIDAY/ STRATWARM EXISTS NORTHERN SIBERIA. NORTHERN ATLANTIC WARM AIR DEVELOPING
66	6	5	13	69	11	S03W32	0	0	0		6	S03W32	Q	SOLQUIET MAGALERT MINOR 06/12 STRATWARM ALERT /SATURDAY/ STRATWARM ENDS. MINOR WARMING EVENT WHICH PEAKED ABOUT TWENTY-EIGHT FEBRUARY PERSISTS SIBERIA-ALASKA REGION AND NORTH ATLANTIC. NEW DEVELOPMENT POSSIBLE BY MID MARCH.
67	7	6	14	69	22	S03W45	0	0	0	A MINOR GEOMAGNETIC DISTURBANCE IS IN PROGRESS	7	S03W45	Q	SOLQUIET MAGALERT MINOR 07/12
68	8	7	23	69	22	S04W59 S08W51	0	0	0		8	S04W59 S08W51	Q Q	SOLQUIET MAGALERT MINOR 08/12
69	9	8	23	69	30	S04W73 S33E40	0 0	0 0	0 0	GEOMAGNETIC DISTURBANCE REACHED STORM LEVEL 08/0110Z	9	S04W73 S33E40	Q Q	SOLQUIET MAGALERT MINOR 09/12
70	10	9	19	69	33	S32E26	0	0	0	NONE	10	S32E24	Q	SOLQUIET MAGALERT MINOR 10/12
71	11	10	21	69	22	S32E15	0	0	0		11	S32E15	Q	SOLQUIET MAGALERT 11/12
72	12	11	23	70	17	S32E01	0	0	0		12	S32E01	Q	SOLQUIET MAGALERT 12/12
73	13	12	19	70	20	S32W10	0	0	0		13	S32W10	Q	SOLQUIET MAGNIL STRATWARM ALERT /SATURDAY/ FURTHER MINOR WARMING PEAKING AROUND 11 MARCH EVIDENT IN MID-STRATOSPHERE OVER SIBERIA-ALASKA REGION.
74	14	13	33	72	13	S33W21 S10W26	0 0	0 0	0 0		14	S33W21 S10W26	Q Q	SOLQUIET MAGQUIET
75	15	14	26	71	16	S35W32 S11W38	1 0	0 0	0 0		15	S35W32 S35W38	Q Q	SOLQUIET MAGQUIET
76	16	15	11	70	15	S11W52	0	0	0		16	S11W52	Q	SOLQUIET MAGALERT MINOR RECURRENCE 16/19
77	17	16	28	73	16	N05E28	0	0	0		17	N05E28	Q	SOLQUIET MAGALERT 17/19
78	18	17	55	77	16	N05E18 S07E23	0 0	0 0	0 0		18	N05E18 S07E23	Q Q	SOLQUIET MAGALERT 18/19
79	19	18	60	80	15	N06E01 S07E08	1 0	0 0	0 0		19	N06E01 S07E07	Q Q	SOLQUIET MAGQUIET
80	20	19	51	83	11	N05W08 S07W02	1 0	0 0	0 0		20	N05W08 S07W02	Q Q	SOLQUIET MAGQUIET
81	21	20	66	86	08	N05W19 S07W14	4 1	0 0	0 0		21	N05W19 S07W14	E Q	SOLALERT PIANO MAGQUIET
82	22	21	69	92	05	N05W34 S08W25	7 0	3 0	0 0		22	N05W34 S08W25	A Q	SOLALERT 22/23 MAGALERT 24/30
83	23	22	69	84	03	N04W50	5	0	0		23	N04W50	E	SOLALERT 23/24 MAGALERT 24/30
84	24	23	34	88	05	N05W64 S06E90	1 0	0 0	0 0		24	N05W64 S06E90	E A	SOLALERT 24/25 MAGALERT 24/30
85	25	24	24	83	04	N04W81 S06E80	1 0	1 0	0 0		25	N04W81 S06E80	E E	SOLALERT 25/26 MAGALERT 25/30
86	26	25	19	86	04	S07E65	8	1	0		26	S07E65	A	SOLALERT 26/28 MAGALERT 26/30

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MARCH 1976

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situatuations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
87	27	26	114	87	86	S07E51 N05W28 S08W27	7 0 1	0 0 0	0 0 0	THE MAJOR MAGSTORM IS DECLINING	27	S07E51 N05W28 S08W27	A Q Q	SOLALERT 27/28 MAGALERT MINOR 27/30
88	28	27	78	86	30	S08E38 N06W40 S09W40	8 0 0	1 0 0	0 0 0		28	S08E38 N06W40 S09W40	A Q Q	SOLALERT 28/29 MAGALERT 28/30
89	29	28	51	89	16	S08E26 N06W54	9 3	1 0	1 0	AN X-1 FLARE WAS OBSERVED IN REGION 690 (S08E26) AT 28/1905Z. MINOR MAGSTORM CONTINUES	29	S08E26 N06W54	A Q	SOLALERT 29/30 MAGALERT 29/31
90	30	29	55	84	21	N06W65 S06E13	0 1	0 0	0 0		30	N06W65 S06E13	Q E	SOLALERT PIANO 30 MAGALERT 30/01 STRATWARM ALERT /TUESDAY/ STRATWARM EXISTS. STRATOSPHERIC VORTEX SPLIT. WARM AIR AND HIGH PRESSURE RIDGE OVER POLAR REGION.
91	31	30	56	83	11	S08W01 N06W82	0 0	0 0	0 0		31	S08W01 N06W82	E Q	SOLALERT 31/XX MAGALERT 31/XX STRATWARM ALERT /WEDNESDAY/ STRATWARM EXISTS. STRATOSPHERIC VORTEX SPLITS WARM AIR OVER POLAR REGION.
92	1	31	29	83	08	S08W11	0	0	0		1	S08W11	E	SOLALERT 01/XX MAGALERT 01/XX STRATWARM ALERT /THURSDAY/ STRATWARM EXISTS. STRATOSPHERIC VORTEX SPLIT. WARM SIBERIAN CYCLONE FILLING. WARM RIDGE OVER POLAR REGION.

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1975 FINAL									1976 PROVISIONAL		
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1	0	26	7	23	37	14	15	0	7	0	0	0
2	0	33	11	18	36	16	9	0	23	0	0	0
3	0	34	9	22	46	19	9	7	20	0	0	0
4	0	32	7	16	78	29	10	18	23	0	0	0
5	0	30	7	23	93	25	8	22	21	0	0	0
6	0	20	7	33	104	24	10	27	18	0	0	10
7	7	14	0	23	102	24	9	30	20	0	0	12
8	17	0	0	19	89	23	10	33	18	0	0	7
9	15	0	0	16	83	17	15	30	8	0	0	10
10	7	5	0	23	80	10	5	26	0	0	0	12
11	0	0	9	29	72	10	8	30	0	0	0	13
12	0	0	0	33	45	16	10	24	0	20	0	13
13	0	0	0	43	52	19	21	22	0	26	13	13
14	0	7	0	46	34	17	26	29	7	36	16	22
15	0	7	8	43	31	8	21	28	7	20	16	16
16	0	8	19	39	26	14	18	28	7	22	11	11
17	0	0	17	25	19	14	16	30	9	24	8	30
18	0	9	12	32	16	18	16	33	8	20	15	45
19	0	0	15	36	8	13	15	36	7	18	10	51
20	0	0	0	26	22	30	10	35	0	16	12	51
21	0	0	7	30	23	27	7	31	0	11	8	48
22	0	5	0	27	7	23	0	23	0	10	7	36
23	7	6	12	15	14	0	0	12	0	10	0	28
24	8	7	20	30	8	0	7	11	18	0	7	25
25	7	0	24	33	11	0	0	9	14	0	0	22
26	7	0	33	30	16	0	0	7	8	0	0	42
27	22	7	38	29	18	0	0	0	0	7	7	46
28	21	13	36	26	10	0	0	0	0	0	0	50
29	16	0	23	20	10	0	0	0	0	14	0	42
30	20	0	22	27	21	7	0	0	0	8		32
31		8		34	21		0		0	0		27
MEAN	5.1	9.0	11.-	28.2	39.7	13.9	9.1	19.4	7.8	8.5	4.6	23.0

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1975									1976		
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1	70.2	76.3	71.4	78.7	91.6	87.0	76.4	70.4	72.1	72.1	68.6	67.7
2	71.2	81.1	73.0	76.8	95.4	87.9	73.1	71.4	74.8	71.2	69.6	69.1
3	72.2	79.6	70.-	77.1*	97.0*	87.8	73.4	73.0	74.3	71.3	69.4	67.4
4	73.0	79.6	70.4	76.8	104.6	92.8	76.3	75.4	74.1	71.8	68.4	67.4
5	73.7	78.4	69.3	76.8	107.9	94.-	76.1	78.9	77.4	71.9	67.6	67.6
6	73.7	75.9	69.2	76.1	120.0*	94.8	75.1	80.1	75.8	71.7	68.1	67.5
7	74.3	73.6	68.1	74.1	123.2	91.1	74.3	80.5	73.7	71.6	69.3	67.9
8	73.6	71.9	67.5	74.0	123.7	88.5	74.0	80.9	76.0	70.9	68.4	67.9
9	73.4	70.-	67.7	73.3	115.9	84.3	75.4	78.3	73.3	69.4	68.3	68.2
10	72.4	70.1	66.8	73.0	116.5	82.5	74.3	78.9	73.3	70.5	69.5	68.4
11	72.3	69.6	68.1	77.6	107.3	81.1	73.3	78.6	74.3	72.1	68.4	68.8
12	70.8	69.6	68.4	82.7	104.5*	78.2*	74.8	79.9	73.4	76.9	67.8	68.9
13	70.7	69.1	67.9	88.5*	98.0	75.2	73.0	79.2	72.8	80.0	69.7	70.9
14	69.7	68.7	68.5	89.0	90.9*	74.2	80.0	82.7	71.8	82.1*	69.9	70.1
15	69.7	69.0	69.9	85.6	86.0	74.1	80.3	83.7	71.8	80.4	69.6	69.1
16	69.2	68.5	71.4	83.6	82.8	74.3	78.9	87.6	70.5	78.1	69.7	72.5
17	69.6	68.3	70.2	81.2	79.0	74.8	78.9	88.9	70.5	76.6	69.9	74.4*
18	68.3	68.7	70.2	82.8	76.4	76.2	79.2	90.8*	69.6	76.7	70.1	79.0
19	67.5	68.9	71.0	81.9	76.7	76.2	78.0	93.0*	69.1	75.2	70.1	81.6*
20	68.0	68.6	72.5	83.3	77.2	76.5	77.1	90.9	69.7	74.6	70.0	85.0
21	68.2	69.7	68.7	83.1	80.0	76.7	75.7	86.6	69.0	72.1	68.8	91.2
22	67.9	70.9	69.9	82.7	78.5	75.3	74.2	81.5	68.9	70.9	68.9	83.0
23	68.7	70.6	72.9	82.0	76.8	76.1	74.3	77.2	69.6	70.2	69.2	86.9
24	69.3	70.6	75.9	79.3	77.0	76.8	72.7*	74.7	71.4	68.5	69.6	82.2*
25	71.6	70.2	77.7	79.8	80.0	76.7	72.1	73.7	71.0	68.2	68.4	85.1
26	72.1	69.0	79.9	80.0	81.3	76.7	71.9	71.9	71.8	68.2	68.5	84.1*
27	74.4	70.5	81.9	78.5	83.6	75.7	72.1	70.7	72.5	67.2	68.5	85.5
28	74.8	70.6	80.7	76.5	83.3	76.1	71.7	70.4	71.5	67.1	67.9	87.1*
29	73.2	71.0	79.4	75.5	84.7	75.9	70.8	70.9	72.5	67.4	67.4	84.0
30	73.4	71.0	78.8	78.9	86.2	75.8	70.2	70.6	71.9	68.9		82.4
31		71.1		81.9*	86.7		69.9		72.1	69.1		82.7
MEAN	71.2	71.0	71.9	79.7	92.7	80.4	75.3	79.1	72.3	72.4	69.8	75.8

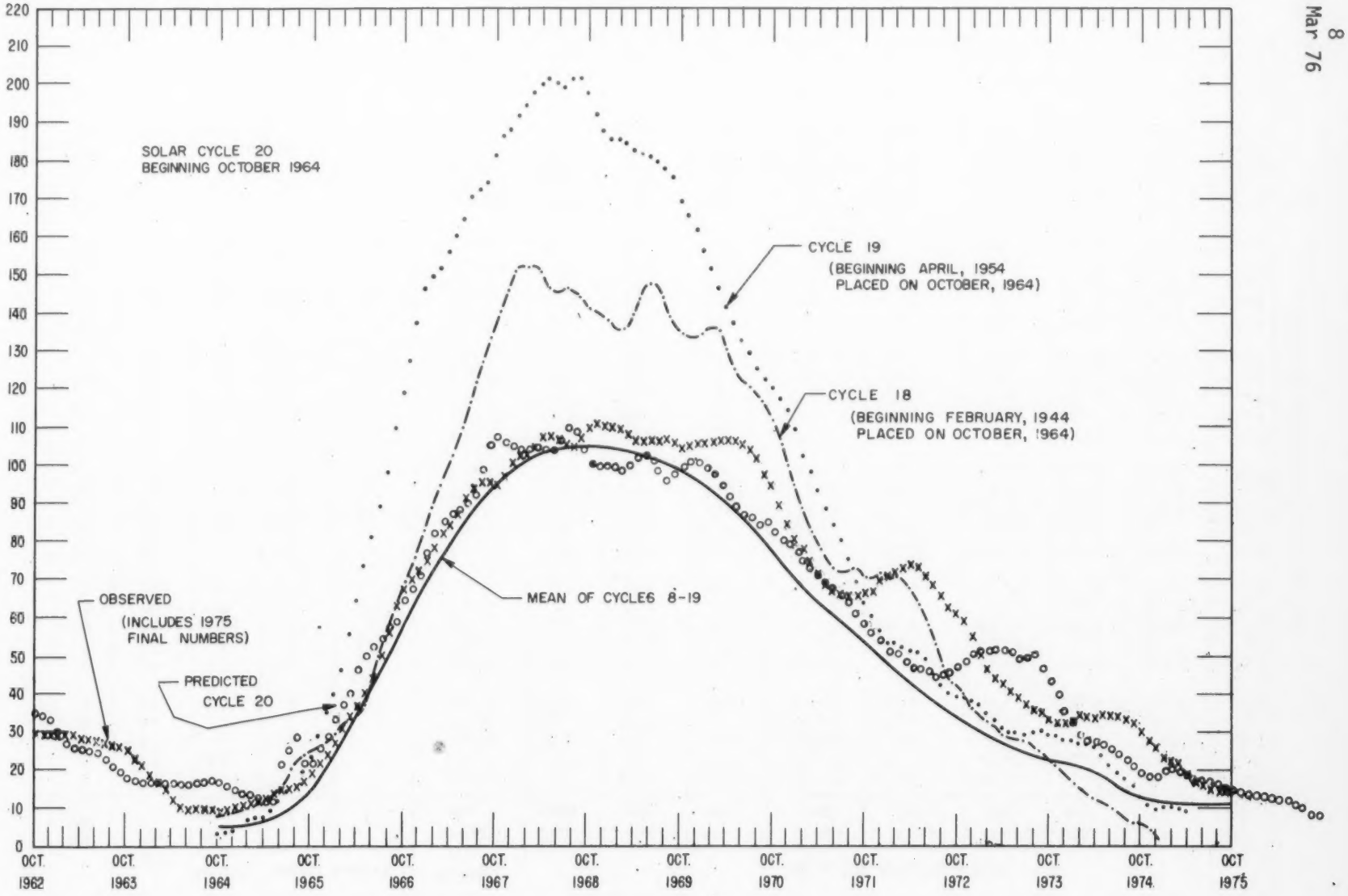
* adjusted for burst

DAILY SOLAR INDICES

MARCH 1976

MAR 1976	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$		AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	61	22	0	0	69.0	519	271	113	67.7	65.8	45.5	32.0	20.3	8.2
2	62	23	0	0	69.3	519	272	114	68.1	66.1	45.7	32.4	20.4	8.0
3	63	24	0	0	68.6	519	273	114	67.4	66.2	46.3	33.0	20.2	8.3
4	64	25	0	0	68.5	520	272	114	67.4	66.2	45.8	33.3	20.2	8.0
5	65	26	0	0	68.7	521	270	114	67.6	66.0	45.2	33.4	19.8	8.0
6	66	27	10	10	68.6	518	268	113	67.5	66.1	45.0	32.9	20.2	7.9
7	67	1	12	11	69.0	521	268	113	67.9	66.5	44.8	31.5	20.7	7.8
8	68	2	7	3	68.9	518	269	114	67.9	66.8	45.0	30.9	18.3	7.2
9	69	3	10	10	69.2	515	268	113	68.2	65.9	45.1	30.2	18.9	8.1
10	70	4	12	12	69.4	518	270	113	68.4	68.6	46.8	30.7	19.0	8.1
11	71	5	13	14	69.8	520	269	113	68.8	68.9	46.3	30.6	20.6	7.8
12	72	6	13	13	69.8	516	270	113	68.9	70.3	48.1	30.5	22.1	7.6
13	73	7	13	16	71.8	517	267	116	70.9	70.4	49.6	31.2	20.4	7.3
14	74	8	22	20	70.9	518	268	114	70.1	70.6	50.8	32.5	19.8	7.1
15	75	9	16	15	69.9	520	274	116	69.1	72.7	51.0	32.9	21.2	7.8
16	76	10	11	13	73.3	522	279	118	72.5	74.8	52.0	33.3	22.5	8.4
17	77	11	30	34	75.2*	525	283	120	74.4*	79.0	52.2	35.7	23.1	11.0
18	78	12	45	44	79.8	525	284	124	79.0	82.0	52.4	37.5	25.9	18.8
19	79	13	51	44	82.3*	526	285	127	81.6*	83.7	54.7	37.7	28.2	27.0
20	80	14	51	44	85.7	523	284	129	85.0	82.6	57.0	37.5	26.5	24.5
21	81	15	48	42	91.9	521	282	138	91.2	87.9	60.0	37.4	27.2	17.5
22	82	16	36	33	83.6	526	284	136	83.0	87.6	57.4	37.3	25.1	11.0
23	83	17	28	25	87.5	527	286	133	86.9	87.4	54.8	37.2	23.0	9.1
24	84	18	25	23	82.7*	527	283	131	82.2*	86.5	52.9	35.2	26.3	7.4
25	85	19	22	20	85.6	536	287	133	85.1	85.5	55.7	33.6	28.1	11.3
26	86	20	42	37	84.5*	523	297	140	84.1*	87.1	55.2	34.1	35.1	24.0
27	87	21	46	45	85.9	525	296	138	85.5	84.5	53.4	33.3	30.7	31.6
28	88	22	50	36	87.4*	527	300	139	87.1*	88.5	53.8	34.8	27.2	49.1
29	89	23	42	34	84.3	528	313	137	84.0	83.3	52.4	32.0	23.3	14.0
30	90	24	32	30	82.6	527	308	137	82.4	81.5	51.8	43.9	31.9	24.4
31	91	25	27	26	82.9	525	310	137	82.7	82.4	53.3	31.3	25.8	33.6
MEAN			23.0	21.1	76.6	522	281	122	75.8	76.2	50.6	33.9	23.6	14.2

* Adjusted for burst.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.3
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.0	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.0	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.0	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.0	105.3	103.0	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.0	74.4	70.9	68.1	66.7	65.4	64.6	65.0	66.2	66.0	69.4
1972	70.0	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.9	46.5	44.2	42.7	40.7	39.1	37.5	36.1	34.4	32.6	31.0	31.5
1974	32.7	34.4	34.0	33.9	34.6	34.5	34.1	33.1	32.1	30.2	27.5	25.2
1975	23.0	22.1	21.3	18.6	16.0	16.0	15.0	14.3	14.5	13.8 (--)	13.1 (--)	12.3 (--)
1976	11.4 (--)	10.7 (--)	10.1 (--)	9.5 (--)	9.2 (--)	9.0 (--)	8.7 (--)	8.4 (--)	8.2 (--)	8.0 (--)	7.9 (--)	7.7 (--)

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1975.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

Hα SOLAR FLARES

MARCH 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE MAR	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			CORD.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
ARCE	07	0939	0941	0943	S05	E52	.785		11.3	4	SF		C	0941	27	.5	H
BOUL	08	2201	2215	2240	S33	E42	.733		12.1	39	SF	2	C	2215	42	.6	
BOUL	09	2055	2057	2103	S 4	W82	.989		3.7	8	SF	2	C	2057	10	.4	
RAMY	14	1830	1839	1848	S35	W31	.644		12.4	18	SN	4	C		41		DE
BOUL	14	1832	1839	1848	S35	W31	.644		12.4	16	SN	1	C	1839	42	.5	
RAMY	14	1833E	1839	1848	S34	W30	.627		12.5	150	SN	4	V		49		DE
PALE	14	1836	1836	1846	S34	W33	.654		12.3	10	SF	3	C		29		
BOUL	17	1748	1753	18030	S 8	E28	.466		19.8	150	SF	2	P	1753	21	.2	
RAMY	17	1753E	1800	19050	S 7	E28	.466		19.8	120	SF	4	C		45		
MCMA	17	1814E		18200	S07	E27	.451	14134	19.8	60	SF		P	1814	20	.2	D
MCMA	17	1833E		18330	N05	E22	.422	14127	19.4		SF		P	1833	30	.3	DH
MCMA	17	1922E		19400	N05	E24	.450	14127	19.6	180	SF		P	1938	40	.4	E
MCMA	17	2004		20080	N05	E25	.464	14127	19.7	40	SF		P	2008	50	.5	E
RAMY	18	1104	1108	1116	N 6	E11	.292		19.3	12	SF	3	C		36		DE
RAMY	18	1106E	1107U	11170	N 6	E12	.303		19.4	110	SF	3	V		48		DE
RAMY	18	1411	1414	1424	N 6	E 9	.271		19.3	13	SF	4	C		45		F H
RAMY	18	1412E	1412U	1418D	N 6	E10	.281		19.3	60	SF	4	V		32		F H
RAMY	18	1521E	1522	1526	N 5	E11	.279		19.5	50	SF	4	V		90		F
RAMY	18	1719E	1723	1732	N 5	E10	.268		19.5	140	SF	4	C		72		F
RAMY	18	1833	1835	18380	N 4	E 9	.245		19.4	50	SF	4	C		45		F
MANI	19	0042E	0042	0049	N04	E03	.197		19.3	70	SF	3	P	0042	20	.2	H
ARCE	19	0945E		0958	N04	W02	.194		19.3	130	SF		C	0945	34	.4	
ATHN	20	0754E	0754U	0803	N 3	W18	.351		19.0	90	SN	4	C		19		DE
ATHN	20	1003	1005	1019	N 3	W19	.366		19.0	16	SN	4	C		48		DE H
ATHN	20	1246	1247	1254	N 4	W20	.387		19.0	8	SF	4	C		48		DE
ATHN	20	1435	1438	1456	S 4	W20	.344		19.1	21	SN	3	C		32		DE
RAMY	20	1449E	1453	1456	N 4	W21	.402		19.0	70	SF	3	C		40		F R
CATA	20	1450E	1450	14500	N02	W21	.388		19.0		SN	1		1450	56	.6	
BOUL	20	1752	1757	1815	N 2	W22	.402		19.1	23	SN	2	C	1757	32	.3	
BOUL	20	1840	1849	1903	N 5	W21	.409		19.2	23	SF	2	C	1849	42	.5	
BOUL	20	2006	2018	2039	S18	W22	.408		19.2	33	SF	2	C	2018	32	.3	
BOUL	20	2146	2153	2222	N 2	W25	.447		19.0	36	SN	2	C	2153	64	.7	
RAMY	20	2151	2155	22010	N 4	W23	.430		19.2	100	SN	3	V		90		FDE
RAMY	20	2151	2155	2216	N 3	W24	.438		19.1	25	SN	2	C		56		FDE
PALE	21	0128	01413	02070	N 4	W23	.430		19.3	390	SB	3	C		147		U H
MITK	21	0130	0141	0154	N04	W26	.473		19.1	24	SB		C	0141	110	1.3	D
MITK	21	0203	0206	0215	N02	W27	.476		19.1	12	SN		C	0206	110	1.3	D
ATHN	21	0502	0505	0532	N 4	W27	.437		19.2	30	SN	3	C		48		F H
MANI	21	0514E	0514U	05250	N04	W26	.473		19.3	110	SN	1	P	0514	50	.6	F
ATHN	21	0756E	0800	0835	N 4	W28	.501		19.2	390	SB	4	C		159		U
ARCE	21	0801E		0838	N04	W28	.501	14127	19.2	340	1N		C	0809	251	3.0	KFT
ATHN	21	0949	0951	1004	N 4	W23	.430		19.7	15	SN	3	C		64		F
ARCE	21	0959E		09580	N04	W30	.529		19.2	80	SN		P	0958	43	.5	
UPIC	21	1022E		10250	N03	W33	.565		19.0	30	SF		P	1022	41		
BOUL	21	1358	1405	14120	N 5	W29	.520		19.4	140	SF	1	P	1405	21	.2	
PALE	21	1829	1845	1917	N 4	W32	.556		19.4	48	SB	3	C		180		U H
BOUL	21	1838	1847	1930	N 1	W36	.599		19.1	92	SB	1	P	1847	149	1.9	
RAMY	21	1843E	1845	18470	N 3	W35	.593		19.2	40	SB	3	V		78		FDE
RAMY	21	1843E	1845	18470	N 3	W35	.593		19.2	40	SB	3	C		78		FDE
PALE	21	1930	1931U	19350	N 5	W31	.548		19.5	50	SF	3	C		21		
BOUL	21	2229	2231	22450	N 2	W37	.616		19.2	170	SN	1	P	2233	42	.5	
PALE	21	2231	2234	22360	N 4	W35	.597		19.3	50	SN	2	C		90		DE
BOUL	21	2259	2301	2310	N 3	W35	.593		19.3	11	SF	1	C	2301	42	.5	
MANI	22	0121E	0125U	01270	N04	W41	.674		19.0	60	SF	2	P	0125	40	.6	F
BUCA	22	0809		0905	N02	W42	.680		19.2	56	SB		C	0814	107	1.5	
PALE	22	2156	2203	2221	N 4	W48	.757		19.3	25	SN	3	C		102		U
BOUL	22	2213E	2213E	2245	N 3	W52	.797		19.0	320	SN	2	P	2213	85	1.4	
MITK	23	0124		0135	N02	W54	.816		19.0	11	SF		C	0124	60	1.1	D
MITK	23	0616		0628	N02	W57	.844		19.0	12	SN		C	0616	90	1.7	D
TEHR	23	0837	0839	0841	S 5	E90	1.000		1.1	4	SB	3	C		80		
TEHR	23	0907	0915	0945	S 6	E90	1.000		1.1	38	SN	3	C		35		

Hα SOLAR FLARES

MARCH 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.			MEASUREMENTS			REMARKS
	DATE MAR	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			CORD.	TYPE		TIME — UT	MEAS. AREA Mill. of Dsk	CORR. AREA Sq. Deg.	
UPIC	23	0917E		1046D	S09	E90	1.000	14143	1.1	89D	1B		P		0932			
MCMA	23	1718	1721	1730	N03	W64	.304	14127	18.9	12	SN		C		1721	40	1.0	DH
BOUL	23	2237	2238	2258	N 0	W65	.908		19.1	21	SF	2	C		2238	21	.5	
BOUL	24	0011	0020	0027D	N 1	W66	.916	14127	19.1	16D	1B	2	C		0020	85	2.1	
MITK	24	0017	0020	0045	N02	W65	.910		19.1	28	SB		C		0020	90	1.8	D
MANI	24	0017	0019	0036D	N02	W67	.924	14127	19.0	19D	1N	3	P		0019	100	2.1	
MANI	24	0515E	0515U	0516D	N02	W71	.948		18.9	1D	SF	3	P		0515	10	.2	
MCMA	24	1900	1903	1913	S11	E85	.994	14143	2.2	13	SF		C		1903			E
BOUL	24	2028	2032	2048	S11	E77	.970		1.6	2D	SF	1	C		2032	21	.7	
MANI	25	0019	0023	0025	N04	W80	.987		19.0	6	SF	2	C		0023	30	.8	
MANI	25	0614	0615	0619	S08	E78	.975		2.1	5	SF	2	C		0615	30	.8	
MANI	25	0704	0707	0714	S05	E76	.968		2.0	10	SF	2	C		0707	40	1.0	
MONT	25	0922	0927	0939	S07	E76	.967		2.1	17	SN		C		0927	60		E
MONT	25	1154	1201	1219	S07	E75	.963		2.1	25	SF		C		1201	40		
MCMA	25	1203E		1300D	S06	E75	.963	14148	2.1	57D	1B		C		1246	120		
MCMA	25	1203E		1300D	S06	E75	.963	14148	2.1	57D	1B		C		1206	60		
MCMA	25	1203E	1206	1300D	S06	E75	.963	14143	2.1	57D	1B		C		1226	100	2.4	FHKTH
MCMA	25	1305	1325	1430	S05	E71	.943	14143	1.9	85	1B		C		1325	125	3.7	FHLWX
CATA	25	1310	1320	1320D	S06	E68	.924	14143	1.6	10D	1N	1			1320	168		
BOUL	25	1322E	1329	1343D	S 5	E67	.918	14143	1.6	21D	1N	1	C		1329	96	2.4	
MCMA	25	1636		1830D	S05	E68	.925	14148	1.8	114D	SN		C		1701			
MCMA	25	1636	1649	1830D	S05	E68	.925	14143	1.8	114D	SN		C		1649	60	1.8	HK
MCMA	25	1909	1917	1924	S05	E67	.918	14143	1.8	15	SN		C		1917	40	1.0	DH
MCMA	25	2039	2041	2053	S05	E67	.918	14143	1.9	14	SF		C		2041	40	1.0	E
MANI	25	2310E	2312U	2318D	S07	E67	.917		2.0	8D	SF	2	V		2312	40	.8	
MANI	26	0001	0004	0011	S05	E64	.896		1.8	10	SF	3	P		0004	30	.6	
MANI	26	0715	0717	0720	S06	E59	.852		1.7	5	SF	3	P		0717	20	.4	
MANI	26	0721	0723	0735	S06	E64	.895		2.1	14	SB	3	P		0723	100	2.0	
MONT	26	0831	0837	0858	S08	E60	.861		1.9	27	SB		C		0837	150		E
MANI	26	0833	0836	0858	S08	E58	.843		1.7	25	SF	3	V		0836	30	.5	H
MANI	26	0833	0840	0958	S08	E58	.843		1.7	25	SN				0840	90	1.6	
MONT	26	1139	1141	1150	S04	E61	.873		2.1	11	SF		C		1141	20		
MONT	26	1336	1341	1354	S04	E60	.864		2.1	18	SF		C		1341	40		E
RAMY	26	1338	1356	1403	S 3	E60	.865		2.1	25	SF	4	C			72		U F
RAMY	26	1356E	1359	1409D	S 3	E59	.856		2.0	13D	SF	4	V			36		DE
RAMY	26	1439	1447	1504	S 8	E61	.870		2.2	25	SB	4	C			108		F H
BOUL	26	1944	1947	1958	S 8	W26	.435		24.9	14	SF	2	C		1946	10	.1	
MANI	26	2300E	2303	2311	S07	E51	.773		1.8	11D	SF	3	P		2303	80	1.3	
MANI	27	0201	0204	0213	S08	E58	.843		2.4	12	SN	3	P		0204	80	1.4	F
PALE	27	0201	0204	0222	S 7	E51	.773		1.9	21	SN	3	C			106		DE
MANI	27	0318	0320	0333	S07	E48	.739		1.7	15	SN	3	P		0320	100	1.5	F
PALE	27	0318	0322	0337	S 7	E50	.761		1.9	19	SN	2	C			101		U
MANI	27	0518	0522	0526	S07	E56	.824		2.4	8	SF	3	P		0522	80	1.4	F
MANI	27	0550	0602	0610	S10	E48	.737		1.8	20	SF	2	P		0602	20	.3	F
MANI	27	0628E	0631	0640	S08	E52	.783		2.2	12D	SN	3	P		0631	60	1.0	F
MITK	27	0629	0633	0640	S08	E53	.793		2.2	11	SN		C		0633	110	1.8	D
ATHN	27	0629	0631	0642	S10	E51	.771		2.1	13	SN	3	C			80		F
MITK	27	0720	0727	0738	S05	E52	.785		2.2	18	SB		C		0727	110	1.8	D
BUCA	27	0723	0728	0744	S07	E54	.804		2.4	21	SN		C		0728	75	1.2	
MANI	27	0726E	0726U	0730	S06	E53	.795		2.3	4D	SF	3	P		0726	80	1.3	F
ATHN	27	1202	1203	1222	S10	E47	.726		2.0	20	SB	3	C			95		U F
UPIC	27	1204	1211	1220U	S17	E48	.741	14143	2.1	16U	1N		P		1211	306		
CATA	27	1210E	1210	1215D	S08	E48	.738	14143	2.1	5D	1B	2			1210	168	2.6	
RAMY	27	1211E	1215U	1230D	S 8	E50	.762		2.3	19D	SN	3	V			120		FDE
RAMY	27	1225E	1225U	1230D	S11	E50	.760		2.3	5D	SN	3	C			108		FDE
BOUL	27	1429	1439	1500	S 6	E47	.728		2.1	31	SN	2	C		1439	42	.6	
RAMY	27	1438	1441U	1451	S 5	E47	.729		2.1	13	SF	4	C			63		DE
RAMY	27	1440E	1443U	1450D	S 4	E48	.741		2.2	10D	SF	4	V			60		DE
BOUL	27	1803	1805	1824	S 6	E46	.716		2.2	21	SF	2	C		1805	21	.3	
BOUL	27	1938	1944	2000	S 9	E46	.714		2.3	22	SF	2	C		1944	21	.3	
RAMY	27	2043	2048	2108	S 8	E42	.664		2.0	25	SN	4	C			63		FDE
RAMY	27	2044E	2049	2108	S 7	E42	.665		2.0	24D	SN	4	V			64		FDE
MANI	27	2333E	2337	2339D	S10	E42	.664		2.1	6D	SF	2	P		2337	80	1.1	F
MANI	27	2353E	2355U	2400	S08	E43	.677		2.2	7D	SF	2	P		2355	50	.7	F
MANI	28	0202	0204U	0215	N05	W45	.726		24.7	13	SF	2	P		0204	30	.5	H
MANI	28	0357E	0403	0412	N06	W46	.740		24.7	15D	SF	3	P		0403	30	.5	
MANI	28	0555	0558	0608D	S07	E34	.555		1.8	13D	SB	3	P		0558	120	1.5	FH

Hα SOLAR FLARES

MARCH 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE MAR	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COORD.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
TEHR	28	0604E	0604U	0615	S 9	E37	.597		2.0	11D	SB	3	C		94		F H
MANI	28	0649	0652U	0701	N06	W48	.762		24.7	12	SF	3	P	0652	40	.6	F
ARCE	28	0922E		1002D	S08	E31	.511	14143	1.7	40D	1N		C	0947	208	2.5	F
MCMA	28	1235	1239	1300	S05	E38	.613	14143	2.4	25	SB		C	1239	50	.7	E
MCMA	28	1343	1345	1353	S05	E38	.613	14143	2.4	10	SN		C	1345	25	.3	D
RAMY	28	1535E	1540U	1545D	S 7	E29	.481		1.8	10D	SF	4	V		27		DE
MCMA	28	1538	1543	1600	S05	E26	.437	14143	1.6	22	SN		C	1543	25	.3	D
RAMY	28	1738	1743	1803	S 7	E26	.435		1.7	25	SN	4	C		80		FDE
MCMA	28	1739	1745	1825	S06	E26	.436	14143	1.7	46	SB		C	1745	100	1.2	F
RAMY	28	1742E	1745	1805D	S 7	E28	.466		1.8	23D	SN	4	V		64		FDE
RAMY	28	1834	1843	1853	S 8	E26	.435		1.7	19	SN	4	C		45		FDE
MCMA	28	1841	1845	1903	S05	E25	.422	14143	1.7	22	SN		C	1845	50	.6	E
RAMY	28	1842E	1844	1855D	S 8	E26	.435		1.7	13D	SN	4	V		80		FDE
RAMY	28	1905E	1921U	2017D	S 7	E28	.466	14143	1.9	72D	1B	4	C		250		Z U
RAMY	28	1905E	1921D	1921D	S 7	E28	.466	14143	1.9	16D	1B	4	V		250		Z U
RAMY	28	1912	1932	2021D	S 7	E28	.466	14143	1.9	69D	1B	4	C		234		Z U
MCMA	28	1915	1940	2000D	S06	E27	.452	14143	1.8	45D	1B		C	1940	300	3.5	FLUXZ
PALE	28	1915	1929D	1929D	S 7	E28	.466	14143	1.9	14D	1B	3	C		235		Z U
PALE	28	1915	1929D	1929D	S 7	E28	.466	14143	1.9	14D	1B	3	V		307		Z U
RAMY	28	2058	2100	2109	S 7	E23	.388		1.6	11	SN	4	C		56		DE
RAMY	28	2059E	2101	2110D	S 7	E23	.388		1.6	11D	SN	4	V		64		DE
RAMY	28	2145	2157	2209	S 5	E32	.528		2.3	21	SF	4	C		45		
MANI	29	0523E	0524U	0524	S07	E19	.323		1.6	1D	SN	2	V	0524	80	.9	F
ARCE	29	0825	0840	0900	N06	W62	.893		24.7	35	SF		C	0840	24	.5	D
WEND	29	0904		0927	S06	E16	.275	14143	1.6	13	1N		V		300		L
MONT	29	0909	0911	0918	S07	E17	.290		1.7	9	SF		C	0911	40		
MONT	29	0910	0913	0921	N07	W61	.887		24.8	11	SF		C	0913	20		
MONT	29	1043	1047	1117D	S11	E24	.407		2.2	34D	SN		C	1047	110		E
RAMY	29	1043	1047	1057	S 8	E20	.339		1.9	14	SF	3	C		45		F
RAMY	29	1049E	1051	1057	S10	E22	.373		2.1	8D	SF	3	V		48		H
WEND	29	1152E		1240D	S11	E27	.453	14143	2.5	48D	1F		V		300		EL
MONT	29	1237	1240	1253	S08	E16	.274		1.7	16	SB		C	1240	70		D
RAMY	29	1701	1711	1717	S 7	E16	.274		1.9	16	SF	3	C		36		FDE
RAMY	29	1710E	1711	1717	S 7	E18	.307		2.1	7D	SF	3	V		48		DE
RAMY	29	1751	1754	1807	S11	E20	.344		2.2	16	SF	3	C		63		DE H
RAMY	29	1759E	1803	1808D	S11	E22	.375		2.4	9D	SF	3	V		60		DE H
MANI	30	0531E	0533U	0539	S07	E06	.104		1.7	8D	SF	2	V	0533	60	.6	
ARCE	30	0910E		0953D	N07	W81	.990	14146	24.3	43D	1F		C	0925	34		
MONT	30	1037	1041	1050	S08	E04	.070		1.7	13	SF		C	1041	40		E
MONT	30	1138	1141	1156	S08	E04	.070		1.8	18	SF		C	1141	40		
RAMY	30	1139E	1141U	1151	S 7	E 5	.087		1.9	12D	SF	4	V		48		DE
RAMY	30	1139	1142	1151	S 7	E 5	.087		1.9	12	SF	4	C		36		
BOUL	30	1329E	1334	1339	S 8	E 7	.122		2.1	10D	SF	1	P	1334	42	.4	
RAMY	30	2101	2108	2115	S11	E 5	.108		2.3	14	SF	4	C		27		DE
PALE	30	2101	2106	2112	S 6	E 3	.056		2.1	11	SN	3	C		21		DE
MCMA	30	2106	2109	2117	S11	E06	.122	14143	2.3	11	SN		C	2109	20	.2	D
RAMY	30	2110E	2111U	2115	S10	E 5	.099		2.3	5D	SF	3	V		30		DE
MCMA	30	2138	2143	2154	S11	E00	.066	14143	1.9	16	SN		C	2143	25	.3	DL
RAMY	30	2140	2143	2147	S10	E 1	.051		2.0	7	SF	2	V		45		FDE
RAMY	30	2140	2142	2147	S10	E 1	.051		2.0	7	SF	3	C		36		FDE
MANI	31	0156	0153	0207	S09	E02	.046		2.2	11	SF	3	V	0158	40	.4	
PALE	31	0159	0159	0208D	S 8	W 3	.054		1.9	9D	SF	3	C		63		HDE
MANI	31	0424E	0424U	0429D	S11	W04	.095		1.9	5D	SF	2	V	0424	50	.5	F
MANI	31	0424E	0424U	0429D	N07	W90	1.000		24.4	5D	SF	2	V	0424	50	1.7	
ATHN	31	0456E	0459U	0527	S 7	W 3	.052		2.0	31D	SN	1	C		80		U H
CATA	31	0705E	0705	0715	S10	W01	.051		2.2	10D	SN	1		0705	56	.6	
UPIC	31	0706E	0706U	0715	S09	W01	.035	14143	2.2	9D	1F		P	0706	286		
MONT	31	0816	0819	0826	N05	W90	1.000		24.6	10	SF		C	0819	20		D
MONT	31	0843	0847	0903	N05	W90	1.000		24.6	20	SF		C	0847	20		D
MONT	31	0855	0857	0900	S10	W04	.084		2.1	5	SF		C	0857	20		D
CATA	31	0950	1005	1005D	S12	W07	.146		1.9	15D	SF	1		1005	112	1.2	
MONT	31	1001	1002	1007	S11	W08	.152		1.8	6	SF		C	1002	40		
MONT	31	1053	1053	1101	S10	W03	.071		2.2	8	SF		C	1053	20		D
CATA	31	1140	1200	1400D	S08	W10	.173	14143	1.7	140D	1N	2		1200	224	2.4	
ATHN	31	1144	1200	1347	S 7	W12	.206		1.6	123	SN	3	C		95		F
MONT	31	1146	1210	1210D	S07	W10	.172	14143	1.7	24D	1N		C	1210	300		
RAMY	31	1202E	1202U	1212D	S 6	W 9	.157		1.8	10D	SN	4	V		192		U
RAMY	31	1202E	1202U	1440D	S 6	W 9	.157	14143	1.8	158D	1N	4	C		256		U F
TEHR	31	1204E		1245D	S 6	W 9	.157		1.8	41D	SN	3	V		190		U

Hα SOLAR FLARES

MARCH 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE MAR	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER DIST.	CENTRAL DISTANCE	MONTH PLAGE REGION	CMP DAY	MIN.		COORD.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
WEND	31	1213E		1545	S09	W09	.158	14143	1.8	207D	2N		P		700		LU
UPIC	31	1400E		1409	S05	W11	.194		1.8	9D	SN		P	1400	122		
BOUL	31	1437	1439	1445	S10	W 4	.084		2.3	8	SF	1	C	1438	21	.2	
UPIC	31	1438E		1442	S10	W05	.099	14143	2.2	4D	1N		P	1438	204		
BOUL	31	1445	1449	1508	S11	W 8	.152		2.0	23	SF	1	C	1445	64	.6	
BOUL	31	1830	1835	190E	S11	W12	.215		1.9	35	SN	2	C	1835	64	.7	
RAMY	31	1840E	1840U	1845D	S10	W13	.227		1.8	5D	SF	3	V		30		
BOUL	31	2127	2135	2148	S 9	W 8	.141		2.3	21	SF	2	C	2135	53	.5	
RAMY	31	2140E	2141U	2146D	S 7	W 7	.121		2.4	6D	SF	3	V		27		DE

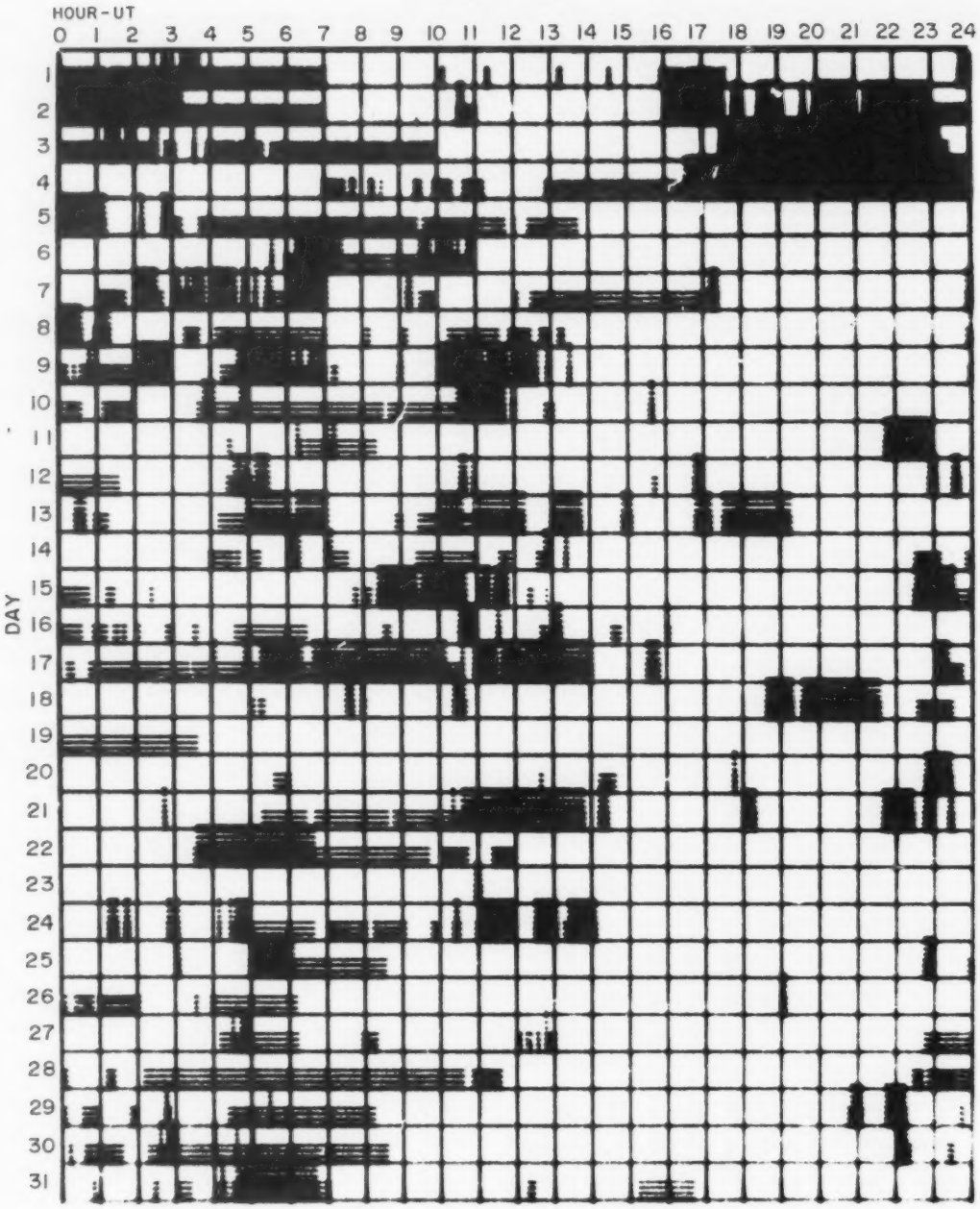
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MARCH 1976

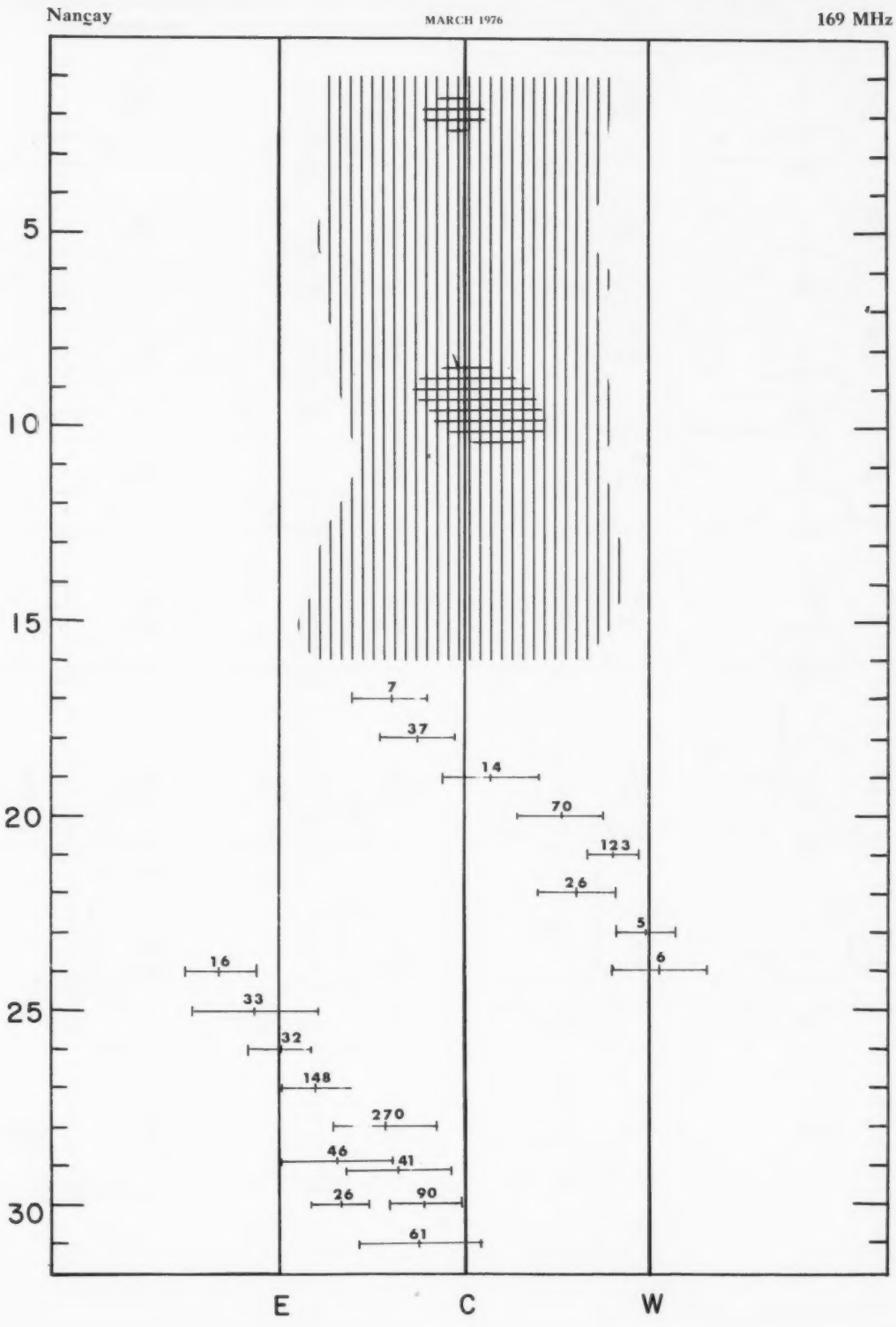


Observatories included in total patrol:

Arcetri	Bucharest	Manila	Monte Mario	Tehran
Athenes	Catania	McMath-Hulbert	Palehua	Upice
Boulder	Herstmonceux	Mitaka	Ramey	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

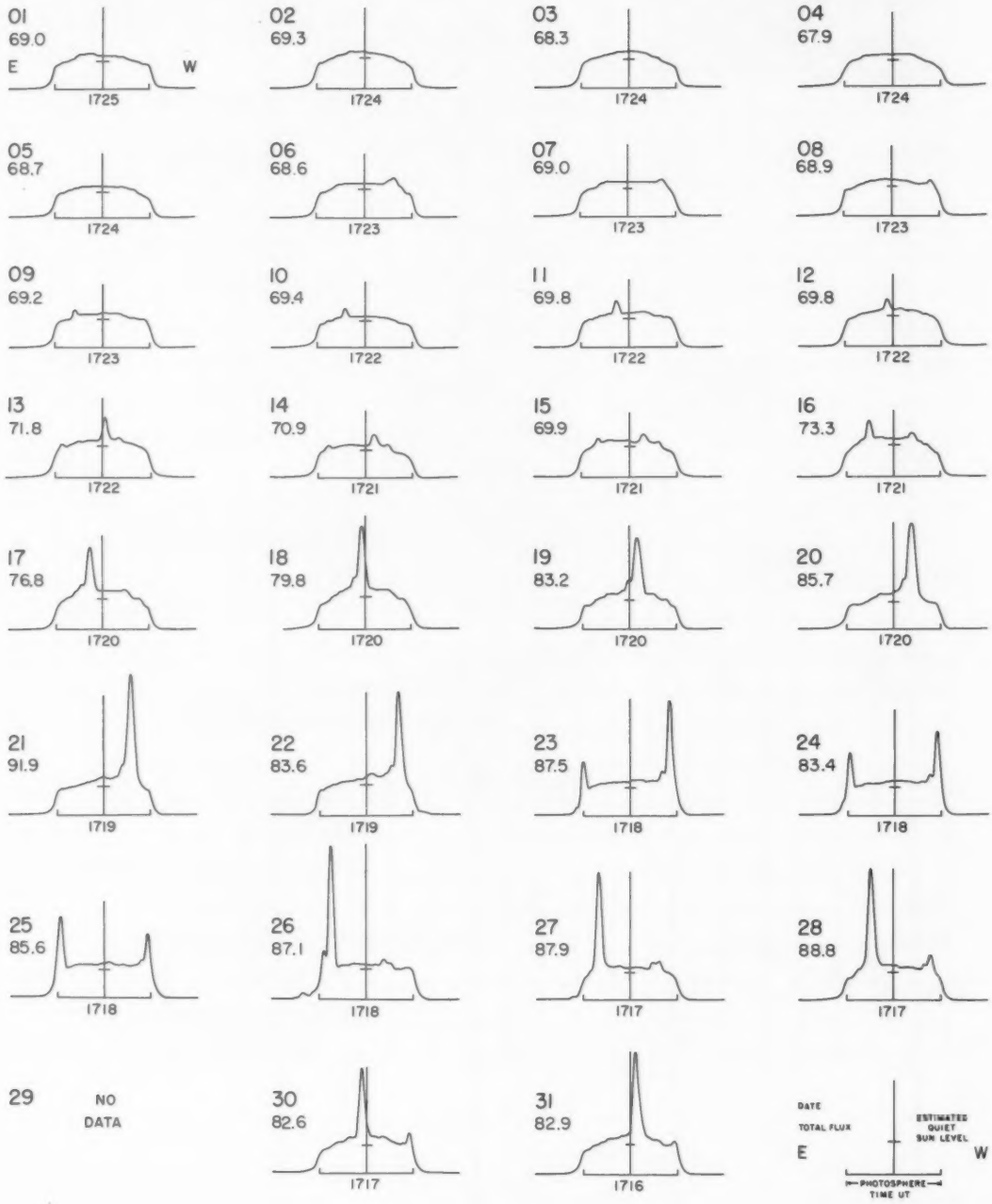


EAST-WEST SOLAR SCANS

MARCH, 1976

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7cm
Fan Beam with 1.5 minutes of arc
E-W Resolution



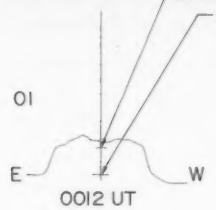
EAST-WEST SOLAR SCANS

MARCH 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

01


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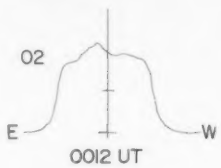

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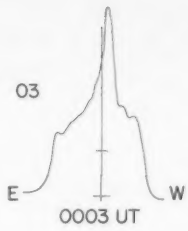

04

05

06

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11

NO DATA MARCH 4 THRU MARCH 19

12

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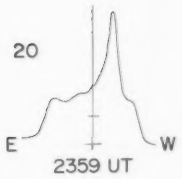
20


21
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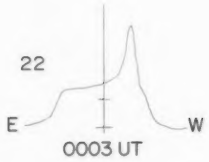
22


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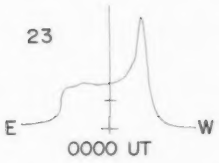

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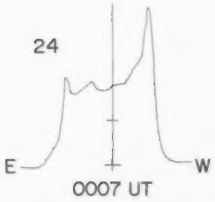

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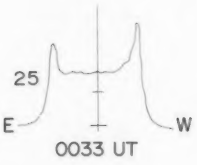

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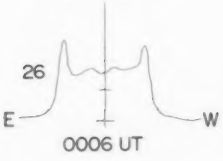

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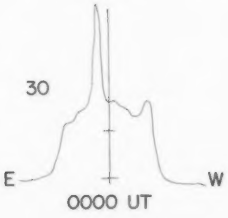

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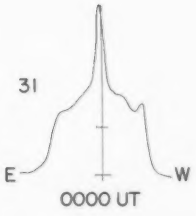


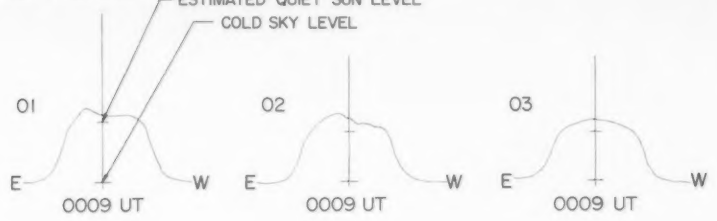
EAST-WEST SOLAR SCANS

MARCH 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



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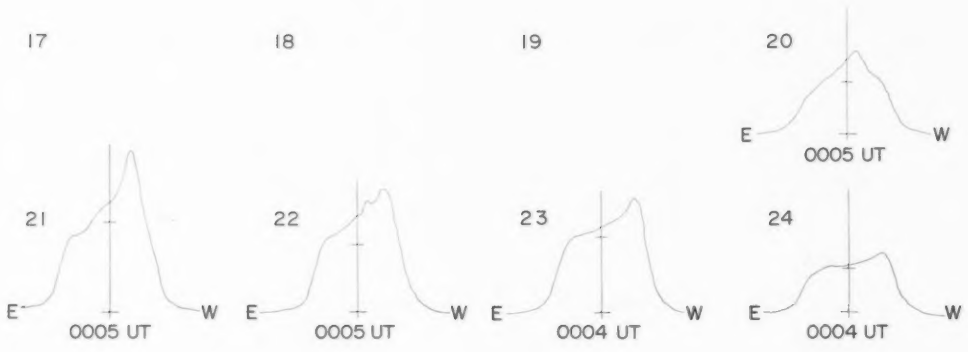
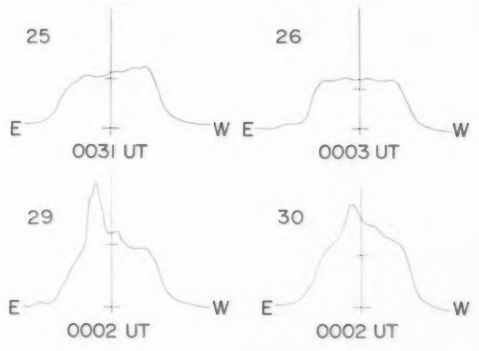




SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
MARCH 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
5	2695	BOUL	8 S	2329	2329.5	1.5	7	2		
12	2695	BOUL	1 S	2216.5	2217.5	1.5	2	1		
14	2695	SGMR	1 S	1837.2	1837.7	1.6	3.8	1.1		
	2800	OTTA	2 S/F	1837.3	1838	2	2.8	1.6		
	2695	BOUL	3 S	1837.5	1839.5	2	3	1		
16	2800	OTTA	240 R	1440	1610	90	1	0.5		
	2800	OTTA	24P R	1610		930 D	1			
17	2800	OTTA	22 GRF	1515	1645	185	1.6	0.9		
	2800	OTTA	240 R	1830	1930	60	1.6	0.9		
	2800	OTTA	24PFR	1930		145	1.8			
	2800	OTTA	240 R	2155	2210	15	1.8	0.9		
	2695	PENT	24P R	2210		170 D	1.8			
18	2800	OTTA	1 S	1411.5	1413	3	1.2	0.6		
	2695	SGMR	1 S	1412	1412.9	1.1	2.3	.7		
	2800	OTTA	20 GRF	1520	1535	55	0.8	0.6		
	2800	OTTA	2?A RF	1710		96	1.2	1.1		
	2800	OTTA	24 R	1710	1720	10	1.2	0.6		
	2800	OTTA	24P R	1720		80	1.2			
	2800	OTTA	21 GRF	1740	1750	20	0.6	0.3		
	2800	OTTA	1 S	1749	1750	1.5	0.8	0.4		
	2800	OTTA	26 FAL	1840	1846	6	-1.2	-0.6		
	2800	OTTA	240 R	1915	1955	40	1.8	0.9		
	2800	OTTA	24P R	1945		300 D	1.8			
19	2800	OTTA	20 GRF	1555	1623	105	2.4	1.2		
20	8800	MANI	2 S/F	0750.3	0750.5	1.2	13.5	5.1		
	2695	MANI	1 S	0749.5	0750.4	2	9.7	3.4		
	2800	OTTA	1 S	1433	1434.4	2	5	2.5		
	2800	OTTA	30 FBI	1435	1435	8.5	1.4	0.7		
	2695	BOUL	2 SF	1434.5	1435.5	1.5	2	1		
	2800	OTTA	1 S	1439.5	1440	4	0.8	0.6		
	2800	OTTA	1 S	1445.9	1445.9	1.5	1.2	0.6		
	2800	OTTA	21 GRF	1722		130	1.6	0.8		
	2800	OTTA	40 F	1753	1758.5	19	2.4			
	2695	SGMR	22 GRF	1753.6	1759.6	19.8	4.8	2.9		
	2695	BOUL	45 C	1754	1759.5	10	3	1		
	2695	PENT	21 GRF	2004	2015	25	1.2	0.6		
	2695	PENT	1 S	2013.9	2014.1	1	1.6	0.8		
	2800	OTTA	4 S/F	2150	2158	8	15	4.8		
	2800	OTTA	30 PBI	2158	2159	20	1.6	0.8		
	2695	BOUL	40 F	2150	2154	23	13	3		
	2695	SGMR	1 S	2152.1	2153.7	4.7	5.8	1.7		
	2800	OTTA	2 S/F	2159	2202.5	8	3.2	1.6		
	2695	PENT	240AR	2238.8	2304.8	16	1.6	0.8		
	2695	PENT	2 S/F	2238.8	2239.5	4	2.2	1.2		
	2695	PENT	24P R	2239.5		120 D	1.6			
	2695	BOUL	45 C	2239.5	2240.5	4.5	2	1		
21	2695	MANI	4 S/F	0138.8E	0140.8U	5.20	15.4U	6.8U		
	2695	MANI	4 S/F	0148.4	0151.7	7.8	20.5	6.6		
	2695	MANI	2 S/F	0201.9	0204.7	5.1	5.7	2.3		
	8800	MANI	1 S	0636.7	0637	2.5	6.5	1.6		
	2695	MANI	1 S	0636.5	0637.1	2	4.2	1.2		
	8800	MANI	4 S/F	0754.2	0757.3	14.8	37.5	16.3		
	2695	MANI	41 F	0756.5	0811.2	33.5	36	10.8		
	8800	SGMR	22 GRF	1243.5	1259.3	55.5	20.7	12.4		
	2695	SGMR	45 C	1241.6	1250.6	29.1	35.4	10.6		
	2695	SGMR	46 C		1259.5		25.8			
	2695	SGMR	23 FBI	1310.7	1310.7	14.8	4.6	1.8		
	2800	OTTA	46F C	1247	1250.2	14.5	24	9.8		
	2800	OTTA		1247	1250.2	8	24			
	2800	OTTA		1255	1259.5	6.5	18.6			
	2800	OTTA	30 PBI	1301.5	1301.5	44	4.8	2.4		
	2800	OTTA	2 S/F	1303.5	1306.5	7	6.4	3.2		
	2800	OTTA	23 GRF	1400	1422	180	4.6	2.6		
	2800	OTTA	1 S	1600	1600.5	1	1.2	0.6		
	2800	OTTA	22 GRF	1702	1720	90	2	1.2		
	2800	OTTA	27AFRF	1825		70	1.4	1.1		
	2800	OTTA	24 R	1825	1835	10	1.4	0.7		
	8800	SGMR	45 C	1829.2	1843.8	20.8	186.8	37.4		
	8800	SGMR	46 C		1848.4		42.8			
	8800	SGMR	29 PBI	1850	1850	21.4	22.5	9		
	2695	SGMR	46 C	1826.2	1844	29.8	86.6	26		
	2695	SGMR	45 C		1848.6		20.3			
	2695	SGMR	29 PBI	1856	1856	15	3.5	1.4		
	2800	OTTA	24P R	1835		40	1.4			
	2695	BOUL	45 C	1835.5	1846	24	67	15		
	2800	OTTA	45 C	1838	1845	14	80	21.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
MARCH 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	2 S/F	1853.5	1854.1	5	4.8	1.6		
	2800	OTTA	26 FAL	1915	1935	20	-1.4	-0.7		
	2800	OTTA	22 GRF	1940	2020	55	1.4	0.7		
	2800	OTTA	1 S	2055	2059.2	9	1.2	0.5		
	2800	OTTA	32A ABS	2110	2225	155	-6.2	-3.1		
	2800	OTTA	46F C	2131.9	2233.7	4.5	94	24		
	2800	OTTA	29 PBI	2236.4	2236.4	-0	3.4	1.7		
	8800	MANI	3 S	2231.8	2233.8	5.7	28.6	13.4		
	2695	MANI	46 C	2231.8	2233.8	5.7	104	27.9		
	2695		46 C		2232.2		47.1			
	2695	BOUL	45 C	2232.5	2235	5	117	35		
	2800	OTTA	2 S/F	2333.5	2334.3	3	9.4	2.4		
	2695	BOUL	8 S	2334	2235	2.5	7	4		
22	8800	MANI	1 S	0117.3	0118.4	2.5	6.7	1.7		
	2695	MANI	1 S	0116.6	0118.4	2.9	3.1	.6		
	8800	MANI	3 S	0419.8	0421.4	3	68	30.6		
	2695	MANI	4 S/F	0419.5	0421.3	3.4	29.1	13		
	8800	MANI	4 S/F	0807	0808.2	7.3	17	3.4		
	2695	MANI	4 S/F	0807	0808.8	7.6	27.3	8.1		
	2800	OTTA	22 GRF	1210	1250	220	5	2.7		
	2800	OTTA	27A RF	1705		275	2.6	2.2		
	2800	OTTA	24 R	1705	1740	35	2.6	1.3		
	2800	OTTA	24P R	1740		200	2.6			
	2800	OTTA	20 GRF	1810	1930	60	1.2	0.6		
	2800	OTTA	1 S	2057	2058	2	1	0.5		
	2800	OTTA	26 FAL	2100	2140	40	-2.2	-1.1		
	2800	OTTA	24QAR	2153	2208	15	3.2	1.6		
	2800	OTTA	22 GRF	2155	2159.5	13	6.6	2.6		
	2695	BOUL	45 C	2159.5	2200	7.5	4	1		
	2695	PENT	24P R	2208		150 D	3.2			
	2695	PENT	20 GRF	2236	2300	95	2.8	1.4		
23	2695	MANI	1 S	0114.3	0116.4	4.9	3.2	.6		
	8800	MANI	47 GB	0840.8	0845.3	28.7	1350	520		
	8800	MANI	47 GB		0847.1		1400			
	8800	MANI	29 PBI	0909.5	0909.5		156			SUNSET
	2695	MANI	47 GB	0840.3	0843	29.2	550	150		
	2695	MANI	47 GB		0844.9		350			
	2695	MANI	29 PBI	0909.5	0909.5		54			SUNSET
	2800	OTTA	26 FAL	1335	1452	77	-4.6	-2.3		
	2800	OTTA	24Q R	1620	1635	15	1.8	0.9		
	2800	OTTA	24P R	1635		460 D	1.8			
	2800	OTTA	20 GRF	1805	1812	20	0.8	0.4		
	2800	OTTA	1 S	1938	1939	6	2	0.8		
	2800	OTTA	20 GRF	2014	2015	12	1	0.6		
	2800	OTTA	1 S	2148	2148.5	2	2	1		
	2800	OTTA	32A ABS	2155	2225	50	-2	-1		
	2800	OTTA	4 S/F	2235	2237	3	14.8	7		
	2695	BOUL	45 C	2235.5	2239	3	19	7		
24	2695	BOUL	3 S	0015	0019	6.5	102	35		
	2695	PENT	3 S	0016	0017.6	5	105	26.2		
	2695	PENT	29 PBI	0021	0021	31	5	2.5		
	8800	MANI	4 S/F	0016.5	0018	8.5	38.4	16.7		
	2695	MANI	4 S/F	0016.5	0018	11.4	54	28.8		
	2800	OTTA	21 GRF	1550	1700	110	1.2	0.7		
	2800	OTTA	1 S	1659	1659.2	1	0.8	0.4		
	2800	OTTA	8 S	1817.8	1817.8	0.5	0.4	0.2		
	2800	OTTA	21 GRF	1742	1803	65	1	0.5		
	2800	OTTA	28 PRE	1834.3	1834.5	1	0.4			
	2800	OTTA	1 S	1835.3	1835.7	2.5	7	1.8		
	8800	SGMR	1 S	1835.6	1835.8	.5	1.4	.4		
	2695	SGMR	1 S	1835.3	1835.7	1.1	7.4	2.2		
	2695	BOUL	8 S	1836	1836.5	1.5	6	2		
	2800	OTTA	20 GRF	1850	1908	50	1	0.5		
	2800	OTTA	1 S	2217.8	2218	1	1	0.7		
	2800	OTTA	2 S/F	2220	2220.6	1	3.8	1.8		
25	2695	PENT	28 PRE	0016.3	0016.9	1.7	1.2			
	2695	PENT	3 S	0018	0018.7	2.5	44	15		
	2695	PENT	29 PBI	0020.5	0020.5	5	3.2	1.4		
	8800	MANI	4 S/F	0017.7	0018.6	2.8	37.2	16.9		
	2695	MANI	4 S/F	0017.7	0018.7	3.5	37.8	17.6		
	2695	BOUL	8 S	0019	0019.5	4	43	18		
	2695	PENT	2 S/F	0038.2	0039	1.5	3	1.2		
	8800	MANI	4 S/F	0357.6	0358.4	2.4	17.5	5.3		
	2695	MANI	2 S/F	0357.4	0358.5	2.6	3.3	.7		
	8800	MANI	1 S	0611.6	0611.8	1.8	7	1.8		
	2695	MANI	3 S	0611.6	0611.8	1.5	11.9	5.3		
	2695	MANI	4 S/F	0702.7	0705.3	4.5	21.8	7.9		
	8800	SGMR	4 S/F	1135.3	1138.7	6.7	15.6	4.7		
	2695	SGMR	2 S/F	1135.7	1139.4	6.4	7.3	2.2		
	8800	SGMR	22 GRF	1148.7	1220.2	61.6	72.7	43.6		
	2695	SGMR	22 S/F	1149	1220.6	66.3	110	33		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
MARCH 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA		1231		16 D	31			
	2800	OTTA	30 FBI	1247	1247	262	12.4	6.2		
	2695	BOUL	45 C	1256.5E	1319	46 D	88	20		
	8800	SGMR	22 GRF	1310.2	1320.5	34.3	35	21		
	2695	SGMR	46 C	1308.2	1317.9	43.8	119.7	35.9		
	2695	SGMR	46 C		1320.6		84.3			
	2800	OTTA	4 S/F	1308.5	1317.5	39.5	96	29		
	2800	OTTA	23 GRF	1710	1725	80	2.2	1.1		
	2800	OTTA	1 S	1714.8	1715.7	1.5	2	1		
	2695	BOUL	45 C	1716	1720.5	6.5	7	2		
	2800	OTTA	1 S	1718	1719.1	2	5.8	1.5		
	2800	OTTA	20 GRF	1845	1915	85	1.6	0.8		
	2800	OTTA	9 S	2041.7	2041.7	0.10	1.6			
	8800	SGMR	3 S	2055	2055.2	2.1	18.2	5.5		
	2800	OTTA	20 GRF	2211	2213	30	1.4	0.7		
	2695	PENT	240 R	2230	2305	35	2	1		
	2695	PENT	24P R	2305		150	2			
26	2695	PENT	20 GRF	0000	0035	80	2	1		
	8800	MANI	1 S	0034.3	0034.6	5.2	10.1	3.4		
	8800	MANI	4 S/F	0413.4	0414.3	1.8	16.1	3.6		
	2695	MANI	2 S/F	0413.4	0414.3	1.7	3.8	1.3		
	8800	MANI	3 S	0656.1	0657.6	3.3	39.4	16.1		
	2695	MANI	1 S	0656.1	0657.8	3.7	3.8	1.3		
	8800	MANI	4 S/F	0719.3	0720.7	7.1	220	63		
	2695	MANI	4 S/F	0719.6	0720.7	4.2	27.7	9.5		
	2800	OTTA	21 GRF	1240	1340	170	1	0.5		
	8800	SGMR	4 S/F	1439.3	1443.5	20.1	118.2	35.5		
	2695	SGMR	4 S/F	1439.1	1443.6	19.3	46.1	13.8		
	2695	BOUL	45 C	1441.5	1444.5	6.5	35	12		
	2800	OTTA	4 S/F	1440.7	1443.5	12.3	45	7		
	2800	OTTA	29 FBI	1453	1453	12	1.8	0.9		
	8800	SGMR	1 S	1518.7	1519.2	3.9	7.8	2.3		
	2695	SGMR	1 S	1519.4	1519.9	1	2.6	.8		
	2800	OTTA	1 S	1519.8	1520	1	0.6	0.3		
	2800	OTTA	21 GRF	1530	1830	570	9.8	4.9		
	2800	OTTA	1 S	1704.5	1706.7	5.5	1.8	1.2		
	2800	OTTA	1 S	1717.5	1718	1.5	1	0.5		
27	8800	MANI	3 S	0011.5	0011.7	2	16.9	6.8		
	8800	MANI	3 S	0600.7	0601.3	3.1	15.8	2		
	8800	MANI	1 S	0627.5	0628.1	4.1	7.9	2		
	2695	MANI	2 S/F	0627.5	0628.1	4.3	4.4	1.2		
	2800	OTTA	21 GRF	1200	1215	255	7	1.8		
	8800	SGMR	46 C	1201.8	1203.7	31.2	41.8	18.4		
	8800	SGMR	46 C		1207.3		46.1			
	2695	SGMR	46 C	1201.2	1203.9	69.9	20.2	10.8		
	2695	SGMR	46 C		1204.9		27			
	2800	OTTA	46F C	1203	1204.6	6	21.2	7.1		
	2800	OTTA	40 F	1217	1219.1	2.5	22.4			
	2800	OTTA	21 GRF	1405	1417	70	3.4	1.7		
	2800	OTTA	1 S	1438.5	1439	3	2.4	0.8		
	2695	BOUL	1 S	1439	1439.5	1.5	2	1		
	2800	OTTA	27 RF	1750		115	1.2	1.1		
	2800	OTTA	24 R	1750	1800	10	1.2	0.6		
	2800	OTTA	24P R	1850		190	1.2			
	2800	OTTA	26 FAL	1940	1945	5	1.2	0.6		
	2800	OTTA	240 R	1945	2020	35	3	1.5		
	2800	OTTA	24P R	2020		160	3			
	8800	SGMR	4 S/F	2042.8	2043.5	4.2	51.5	15.5		
	2695	SGMR	2 S/F	2043.4	2043.7	3.7	4.8	1.4		
	2800	OTTA	8 S	2043.5	2043.7	0.5	3.4	0.8		
	2695	BOUL	8 S	2044.5	2045	1	6	2		
	2800	OTTA	8 S	2046.1	2046.4	0.6	1.4	0.7		
	2695	PENT	240AR	2300	2345	45	2.4	1.2		
	2695	PENT	1 S	2327	2328	3	2.6	1.3		
	2695	BOUL	45 C	2328.5	2329	1	3	1		
	8800	MANI	1 S	2340.2	2340.5	1.3	7.6	1.9		
	2695	MANI	1 S	2340.3	2340.5	1.3	2.5	.6		
	2695	PENT	1 S	2340.2	2340.8	2	2.4	1.2		
	2695	BOUL	2 SF	2341.5	2342	1	3	1		
	2695	PENT	24P R	2345		60 D	2.4			
28	2695	PENT	20 GRF	0043	0048	40	2.4	1.2		
	8800	MANI	1 S	0528.7	0529	7.6	8.6	2.2		
	2695	MANI	1 S	0528.7	0534.7	6.3	4.9	1.2		
	8800	MANI	46 C	0550.3	0556.3	24.7	174	43		
	8800	MANI	46 C		0602.2		58			
	2695	MANI	46 C	0553.4	0556.4	22.6	48.8	18.9		
	2695	MANI	46 C		0602.2		37.8			
	2800	OTTA	21 GRF	1220	1240	35	1.4	0.8		
	8800	SGMR	2 S/F	1232.8	1236.5	5.4	8.8	2.6		
	2695	SGMR	4 S/F	1232.4	1235.3	13.4	10.5	3.3		
	2800	OTTA	4 S/F	1234.2	1235	3.5	10.8	2.6		
	2800	OTTA	21 GRF	1337	1343	13	1.4	0.7		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
MARCH 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	1 S	1340	1340.5	2	5.6	1.9		
	8800	SGMR	1 S	1340.3	1340.7	.9	2.9	.9		
	2695	SGMR	1 S	1339.4	1340.7	4.5	7.1	2.1		
	2695	BOUL	8 S	1341	1341.5	1.5	5	2		
	2800	OTTA	27 RF	1440		160	1.2	1.1		
	2800	OTTA	24 R	1440	1455	15	1.2	0.6		
	2800	OTTA	24P R	1455		125	1.2			
	2800	OTTA	26 FAL	1700	1720	20	-1.2	-0.6		
	2800	OTTA	21 GRF	1725	1750	50	2.2	1.1		
	8800	SGMR	1 S	1738	1738.2	.9	6.3	2.5		
	2695	SGMR	1 S	1738	1738.2	.9	4.3	1.3		
	2800	OTTA	1 S	1738	1738.1	1	2.6	1		
	2800	OTTA	23 GRF	1840		380 D	18			
	2695	BOUL	47 GB	1842.5	1937.5	305	2164	413		
	8800	SGMR	28 PRE	1842.9	1915.4	32.6	23	11.5		
	8800	SGMR	47 GB	1915.4	1927.5	44.6	3236	1100		
	8800	SGMR	47 GB		1934.1		3719			
	8800	SGMR	29 PBI	2000	2000	47	59.8	29.9		
	2800	OTTA	47 GB	1914	1936	59	1965	470		
	2695	SGMR	28 PRE	1840.8	1914.6	33.8	21.3	10.7		
	2695	SGMR	47 GB	1914.6	1929	47.4	718	570		
	2695	SGMR	47 GB		1936		1890			
	2695	SGMR	30 PBI	2002	2002	23	14.8	7.4		
	2800	OTTA	3 S	1954.5	1955	1	50	25		
	2800	OTTA	4 S/F	1957	1957.5	3	58	22		
	2695	SGMR	3 S	2006.9	2008.3	3.9	16.8	5		
	2800	OTTA	1 S	2007	2008	2.5	9.6	5		
	2800	OTTA	30 PBI	2014	2014	110	8	4		
	2800	OTTA	20 GRF	2030	2040	18	3.8	1.9		
	2800	OTTA	45 C	2057.8	2059	7	28	5		
	2695	PENT	3 S	2454.5	2455	1.5	10.8	2.7		
29	2695	MANI	2 S/F	0054.3	0055.2	3.2	8.2	1.3		
	8800	MANI	4 S/F	0523.2	0523.4	1.2	85	32.5		
	2695	MANI	4 S/F	0522.8	0523.3	2	16.4	7.6		
	8800	MANI	3 S/F	0751.2	0751.8	2.3	32.5	10.2		
	8800	MANI	3 S	0908.8	0909.5	2.5	46.7	16.2		
	2695	MANI	4 S/F	0908.8	0909.4	2.5	32.1	12.6		
	2800	OTTA	20 GRF	1538	1540	14	1.2	0.5		
	2695	SGMR	20 GRF	1538.8	1539.7	11	1.5	.9		
	2695	SGMR	22 GRF	1749.8	1755.9	11	4.4	2.7		
	2800	OTTA	1 S	1751.5	1752.2	1.5	1.5	0.6		
	2800	OTTA	26 FAL	1801	1803	2	-1.2	-0.6		
	2800	OTTA	32 ABS	1810	1825	90	-0.8	-0.4		
	2800	OTTA	1 S	2055.5	2056	5	1.6	0.6		
	2695	BOUL	3 S	2056	2056.5	2	3	1		
	8800	MANI	4 S/F	2338.9	2339.7	3.7	31.3	4.8		
30	8800	MANI	22 GRF	0348	0359.2	15	10.6	2.7		
	2695	MANI	41 F	0348	0349.8	12.8	8.3	1.3		
	2695	MANI	2 S/F	0526.9	0528.6	3.5	10.2	5.1		
	2800	OTTA	20 GRF	1540	1630	95	1.2	0.6		
	8800	SGMR	22 GRF	1901	1901.7	15.1	20.2	12.1		
	2695	SGMR	22 GRF	1901.3	1903.2	21.2	1.7	1		
	2800	OTTA	20 GRF	2100	2105	30	1.6	0.8		
31	2695	PENT	2 S/F	0104	0104.8	1	8.2	4.1		
	8800	MANI	4 S/F	0157.7E	0159.7U	2.9D	15.4U	5.1D		
	2695	MANI	4 S/F	0157.7E	0158.8U	2.3D	8.2U	2.5D		
	8800	MANI	3 S	0304.4	0305.4	2.4	34.1	15.7		
	2695	MANI	40 F	0421.3	0421.8	1.1	36.4	5.9		
	8800	MANI	4 S/F	0453.3	0455.6	6.9	230	91		
	2695	MANI	4 S/F	0453.3	0455.5	4.2	14.3	5.2		
	8800	MANI	1 S	0703.5	0704	1	7.8	2.6		
	2695	MANI	4 S/F	0703.5	0703.9	1	51	10.4		
	2800	OTTA	21 GRF	1150	1230	330	7.6	3.6		
	2695	SGMR	46 C	1153.6	1158.3	14.7	25.9	8.2		
	2695	SGMR	46 C		1200.8		27.4			
	2800	OTTA	45 C	1154	1157.5	10	20.2	6.8		
	2800	OTTA	1 S	1236.5	1239	9	4.6	1.6		
	2800	OTTA	40 F	1259.9	1310	11	25			
	8800	SGMR	22 GRF	1301.1	1304.1	18.2	9.4	2.8		
	2695	SGMR	4 S/F	1259.8	1304.3	33.7	29.3	8.8		
	2800	OTTA	1 S	1323	1324.1	3	3	1		
	2800	OTTA	1 S	1356	1356.5	1	1.8	0.9		
	2800	OTTA	45 C	1436.2	1437.9	2.8	3.2	0.8		
	8800	SGMR	1 S	1436.5	1437.3	2.2	9.9	3		
	2695	SGMR	2 S/F	1436.3	1437.8	2	6.1	1.8		
	2800	OTTA	1A S	1445	1445.7	10	2	1		
	2800	OTTA	40 F	1445.1		2	3.4			
	2800	OTTA	1 S	1613.9	1614.2	3	1	0.5		
	2800	OTTA	1 S	1627.1	1627.5	1	1.4	0.7		
	2695	SGMR	4 S/F	1757.7	1758.7	8	34.9	10.5		
	2800	OTTA	2 S/F	1758	1758.5	2	1.6	0.6		
	2800	OTTA	2 S/F	1806	1807.7	6	2.8	0.7		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MARCH 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	8800	SGMR	1 S	1807.5	1810	4.2	3.3	1		
	2695	SGMR	1 S	1806.5	1807.8	4.1	4.8	1.4		
	2800	OTTA	20 GRF	1829	1835	35	3.2	1.6		
	8800	SGMR	20 GRF	1831.5	1835.3	33.4	5.2	3.1		
	2695	SGMR	20 GRF	1828.7	1835	34.7	4.2	2.5		
	8800	SGMR	1 S	1959.3	1959.4	1.3	9.4	2.8		
	2800	OTTA	20 GRF	2005	2020	35	1.2	0.8		
	2800	OTTA	21 GRF	2127	2141	50	1	0.5		
	2695	PENT	2 S/F	2127.5	2128.2	1	8.4	2		
	2800	OTTA	2 S/F	2127.5			4			

Observatories:

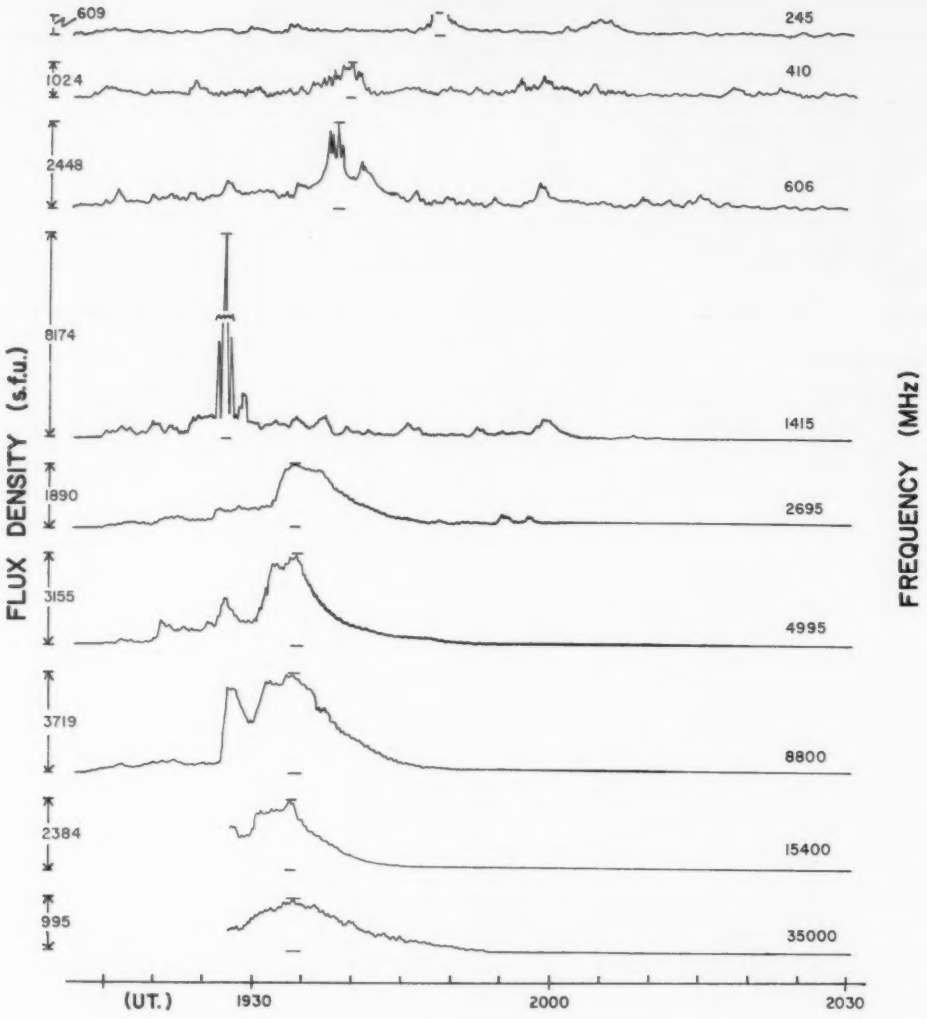
BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1	6 Minor	22 Simple 3F	27 Rise and Fall	32 Absorption	44 Noise Storm in Progress
2 Simple 1F	7 Minor +	23 Simple 3AF	28 Precursor	40 Fluctuation	45 Complex
3 Simple 2	8 Spike	24 Rise	29 Post Burst Increase	41 Group of Bursts	46 Complex F
4 Simple 2F	20 Simple 3	25 Rise A	30 Post Burst Increase A	42 Series of Bursts	47 Great Burst
5 Simple	21 Simple 3A	26 Fall	31 Post Burst Decrease	43 Onset of Noise Storm	48 Major
					49 Major +

SELECTED SOLAR NOISE BURST

28 MARCH 1976



GREAT BURST OBSERVED 28 MAR. 1976 AT
SAGAMORE HILL RADIO OBSERVATORY, HAMILTON, MASS.

SOLAR WIND

Interplanetary Scintillations

MARCH 1976

UCSD 74 MHZ SCINTILLATIONS

DAY	3C48 VEL	3C48 ERR	3C144 VEL	3C144 ERR	3C147 VEL	3C147 ERR	3C161 VEL	3C161 ERR	3C237 VEL	3C237 ERR	3C273 VEL	3C273 ERR	3C298 VEL	3C298 ERR	3C459 VEL	3C459 ERR
1	406	*	533	56									630	187		
2	245	*														
3	177	59														
4	309	89	421	7												
5	269	34	421	132			317	8								
6	240	32	463	37			565	38								
7	207	46	254	50	288	79										
8	246	28	394	22												
9	304	5	640	*												
10	288	30	506	33												
11	440	77														
12	408	88														
13	415	76	261	*	244	*										
14			484	*		0	360	*								
15	448	134	307	*	301	*										
16	543	88	483	32			348	24								
17	630	119														
18			300	23			328	47								
19	407	98											492	187		
20	567	*	384	68			648	72								
21			384	24			510	*								
22	322	91														
23	350	107	312	20												
24			419	84	346	51	311	36								
25	360	104	421	61			353	22								
26	457	149	386	26	305	41	335	23	400	13			443	182		
27	416	102					340	18					518	215		
28			269	66												
29			224	10												
30	312	114	314	17												
31			376	61			391	29	402	*						

MARCH	5 UT	LAT	DIST	DLON	15 UT	LAT	DIST	DLON	25 UT	LAT	DIST	DLON
3C48	23.	10.	0.79	-34.	22.	16.	0.69	-41.	21.	24.	0.58	-46.
3C144	3.	-7.	1.08	-16.	2.	-7.	1.03	-17.	1.	-7.	0.98	-18.
3C147	2.	0.	1.09	-14.	1.	0.	1.05	-15.	0.	0.	1.00	-16.
3C161	4.	-14.	1.13	-13.	3.	-14.	1.09	-14.	3.	-15.	1.05	-15.
3C237	7.	-8.	1.29	-3.	7.	-8.	1.28	-6.	6.	-7.	1.26	-8.
3C273	9.	-6.	1.29	5.	9.	-5.	1.30	2.	8.	-5.	1.30	-0.
3C298	11.	-2.	1.22	9.	11.	-2.	1.25	7.	10.	-2.	1.27	5.
3C459	20.	51.	0.17	-65.	19.	58.	0.16	59.	19.	28.	0.28	67.

* indicates data for which no error estimate is available, because only two antennas were operating.

Errata: The data published for February 1976 (in SGD-376, Part I) contained a number of errors in the dates of observation for the radio source 3C48. See page 123 of this issue for a corrected table.

SOLAR X-RAYS BY SATELLITE
SMS GOES

MARCH 1976

.5 - 4Å Hourly Averages (10^{-6} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
3/ 1	B	B	B	B	B	B	B	B	B	B	0.05	B	B	B	B	B	B	B	B	B	B	0.17	B	B	B
3/ 2	B	B	B	B	B	M	B	B	B	B	0.71	B	B	B	B	B	B	B	B	B	B	M	M	M	0.04
3/ 3	B	B	B	B	M	M	B	B	B	B	0.08	B	B	B	M	B	B	B	B	M	B	0.08	B	B	B
3/ 4	B	B	B	B	M	M	B	B	B	B	B	B	B	0.02	B	B	B	M	M	M	M	M	B	B	B
3/ 5	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/ 6	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/ 7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/ 8	B	B	B	B	B	B	B	B	B	B	0.09	B	B	B	B	B	B	B	B	B	M	M	M	B	B
3/ 9	B	0.03	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/10	M	M	M	M	M	M	0.02	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/11	M	B	B	B	B	M	B	B	B	B	0.08	B	B	M	M	B	B	B	B	B	B	B	B	B	B
3/12	0.03	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	B	M	B	B
3/13	B	0.04	B	M	M	M	B	B	B	0.01	0.06	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/14	B	0.04	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
3/16	B	M	M	M	M	M	B	B	B	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
3/17	B	0.02	B	B	B	B	B	B	0.10	0.20	B	B	B	B	B	B	B	B	B	B	M	M	B	B	0.02
3/18	0.28	B	B	B	B	B	0.02	0.07	B	M	0.11	B	B	B	B	B	B	B	B	B	B	0.07	B	B	0.02
3/19	B	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B	B	0.14	B	B	B
3/20	B	0.01	B	B	B	M	M	0.27	0.66	0.10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.05
3/21	B	B	0.01	B	B	B	B	B	0.14	B	B	0.02	0.01	0.02	B	B	B	B	0.07	B	B	B	0.01	B	0.01
3/22	B	B	B	B	0.01	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B	0.01	B	B
3/23	B	B	0.07	B	M	M	B	B	B	0.03	0.05	0.02	0.01	B	B	B	B	B	B	B	B	B	B	B	0.01
3/24	0.02	B	B	B	B	M	B	B	B	B	0.01	B	B	B	B	B	B	B	B	B	B	0.07	B	B	B
3/25	B	M	M	M	M	M	B	0.01	B	B	0.08	0.03	0.08	0.04	0.01	B	B	B	B	B	B	B	B	B	0.02
3/26	0.02	B	B	B	M	M	B	0.02	B	B	B	M	B	B	B	B	B	0.01	0.02	0.01	B	B	B	B	B
3/27	B	B	B	B	M	M	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B
3/28	B	0.02	B	B	B	0.01	B	B	B	B	0.01	B	B	B	B	B	B	B	B	0.78	0.26	0.17	0.04	0.02	0.06
3/29	0.02	0.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/30	B	B	B	M	M	M	B	B	B	B	0.64	B	B	B	B	B	B	B	B	B	B	B	B	B	0.03
3/31	0.01	B	B	B	B	M	B	B	B	B	B	B	0.02	0.01	B	B	B	B	B	B	B	B	B	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE
SMS GOES
MARCH 1976

1 - 8Å Hourly Averages (10^{-5} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
3/ 1	B	B	B	B	B	B	B	B	B	B	0.05	B	B	B	B	B	B	B	B	B	B	0.19	B	B	B
3/ 2	B	B	B	B	B	M	B	B	B	B	0.27	B	B	B	B	B	B	B	B	B	B	M	M	M	0.02
3/ 3	B	B	B	B	M	M	B	B	B	B	0.08	B	B	B	M	B	B	B	B	M	B	0.08	B	B	B
3/ 4	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	B	B	B
3/ 5	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	0.14	B	B	B	B	B	B	B	B	B
3/ 6	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B	B	B	B	B
3/ 7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.15	B	B	B	B	B	B	B	B	B
3/ 8	B	B	B	B	B	B	B	B	B	B	0.09	B	B	B	B	B	B	B	B	B	M	M	M	B	B
3/ 9	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/10	M	M	M	M	M	M	B	0.05	B	M	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B	B
3/11	M	B	B	B	B	M	B	B	0.03	B	0.08	B	B	M	M	B	B	0.19	B	B	B	B	B	B	B
3/12	0.03	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	B	M	B	B
3/13	B	0.03	B	M	M	M	B	0.01	B	B	0.07	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/14	B	0.07	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.07	B	B	B	B	B	B
3/15	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	0.02	B	B	B	B	B	B
3/16	B	M	M	M	M	M	B	B	B	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
3/17	B	B	B	B	B	B	B	B	0.04	0.01	0.02	B	B	B	B	B	B	B	B	B	M	M	B	B	B
3/18	0.05	B	B	B	B	B	0.01	0.06	B	M	B	B	B	B	B	B	B	B	B	B	B	0.08	B	B	0.02
3/19	B	B	B	B	B	B	B	B	0.01	B	B	B	B	B	B	B	B	B	B	B	B	0.17	B	B	B
3/20	B	B	B	B	B	M	M	0.15	0.26	B	B	B	B	B	B	B	B	B	B	B	B	B	0.01	B	0.04
3/21	B	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.12	B	B	0.02	0.02	0.04	0.01	0.01	0.01	0.01	0.06	0.02	B	0.01	0.02	0.01	0.02
3/22	B	B	B	B	0.02	B	B	B	B	B	B	B	0.01	B	B	0.02	B	B	B	B	B	B	0.02	0.01	B
3/23	B	B	0.05	B	M	M	B	B	B	0.04	0.09	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	B	B	B	0.01	B	0.02
3/24	0.03	0.01	0.01	B	B	M	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	0.07	B	B	B
3/25	0.01	M	M	M	M	M	0.02	0.03	0.01	B	0.09	0.03	0.10	0.07	0.04	0.02	0.02	0.02	0.01	0.01	B	B	0.02	B	0.02
3/26	0.04	0.02	B	B	M	M	0.02	0.03	B	B	B	M	B	B	0.01	B	B	0.02	0.03	0.03	0.02	0.01	0.01	B	B
3/27	B	B	0.01	B	M	M	B	B	B	B	B	B	0.03	B	0.01	B	B	B	B	B	B	B	B	B	B
3/28	B	B	B	B	B	0.01	0.01	B	B	B	0.03	0.02	B	B	B	B	B	B	B	0.50	0.31	0.14	0.07	0.05	0.05
3/29	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
3/30	B	B	B	M	M	M	B	B	B	B	0.27	0.03	B	B	B	B	B	B	B	B	B	B	B	B	0.02
3/31	B	B	B	B	B	M	B	B	B	B	B	B	0.04	0.03	0.02	0.01	0.01	B	B	B	B	B	B	B	B

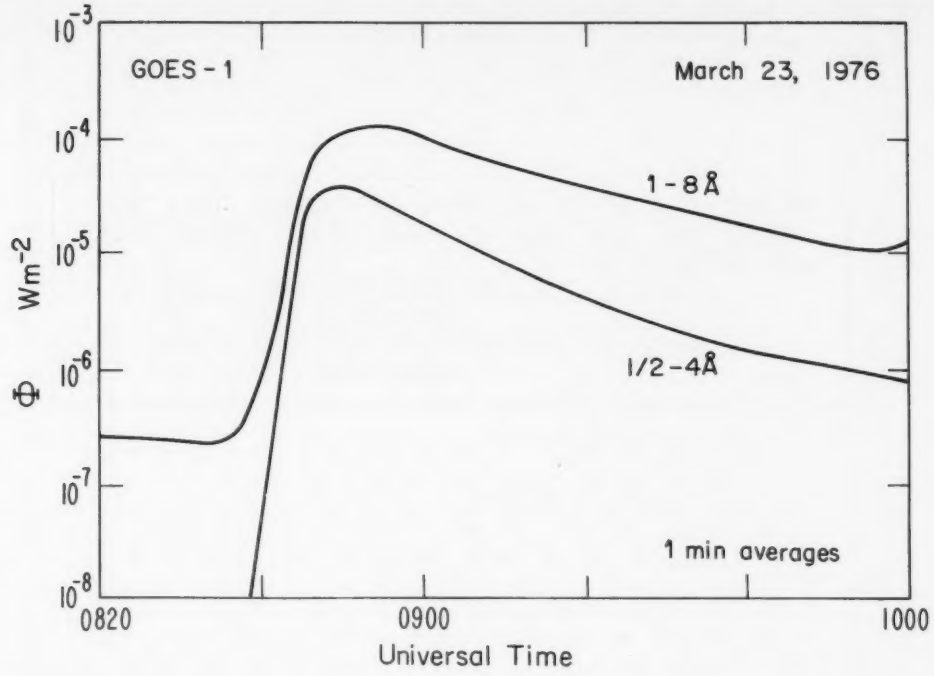
Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

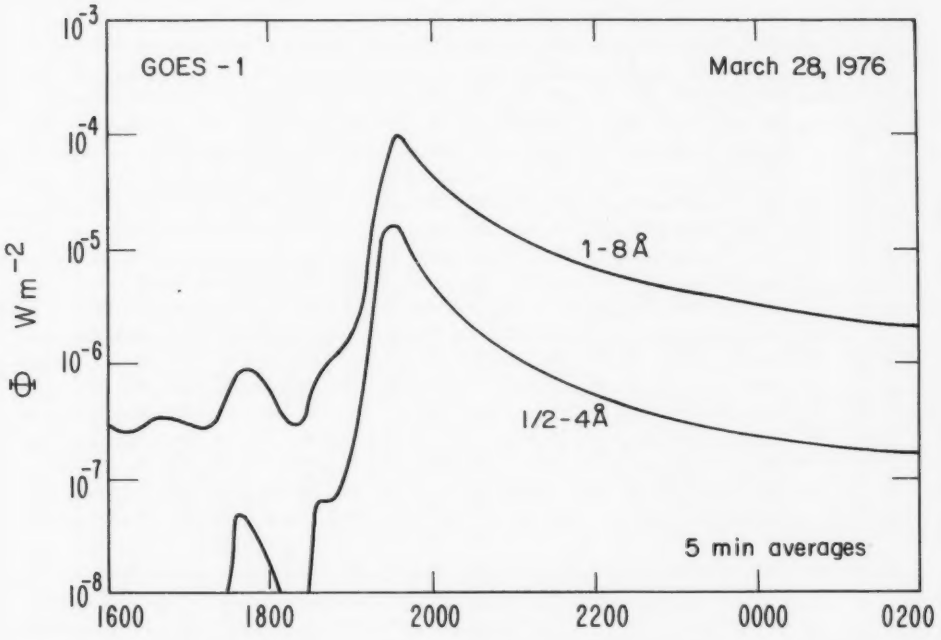
27 Mar 76

SOLAR X-RAYS BY SATELLITE
SMS GOES
MARCH 1976

DAY	BEGIN TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	MAX TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	1/2P TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}
20	2149	2.0E-08	7.2E-07	2156	3.3E-07	3.8E-06	2206	9.9E-08	2.3E-06
21	0122	5.9E-09	6.8E-07	0144	3.5E-07	4.6E-06	0203	7.5E-08	2.7E-06
21	0752	1.0E-08	9.3E-07	0811	8.1E-06	4.3E-05	0818	2.1E-06	2.2E-05
21	1111	2.2E-08	1.0E-06	1117	4.0E-07	4.5E-06	1122	9.3E-08	2.8E-06
21	1247	5.0E-08	1.4E-06	1307	9.9E-07	1.1E-05	1316	2.0E-07	6.1E-06
21	1838	1.9E-07	2.8E-06	1848	3.3E-06	2.2E-05	1858	8.4E-07	1.2E-05
21	2227	3.0E-09	5.7E-07	2237	6.7E-07	6.0E-06	2245	1.5E-07	3.3E-06
22	0417	2.5E-08	9.1E-07	0424	1.1E-06	9.3E-06	0429	1.8E-07	5.1E-06
22	2152	0.0E+00	2.3E-07	2206	4.9E-07	5.1E-06	2219	9.9E-08	2.7E-06
23	0210	3.0E-09	7.2E-07	0214	1.2E-05	1.1E-04	0216	2.7E-09	5.5E-05
24	0013	1.2E-08	8.9E-07	0020	1.9E-06	1.5E-05	0026	4.5E-07	8.2E-06
25	0014	7.6E-09	5.5E-07	0020	5.9E-07	6.2E-06	0023	1.2E-07	3.4E-06
25	0702	4.2E-08	1.9E-06	0707	4.3E-07	6.5E-06	0714	1.4E-07	4.2E-06
25	1134	9.4E-08	1.8E-06	1215	1.0E-06	1.1E-05	1352	2.3E-07	6.3E-06
25	1712	2.8E-08	1.4E-06	1723	4.2E-07	6.2E-06	1727	9.8E-08	3.8E-06
25	2154	3.1E-09	6.6E-07	2214	3.2E-07	5.1E-06	2222	8.1E-08	2.9E-06
25	2358	5.0E-09	7.8E-07	0004	9.9E-07	9.8E-06	0010	2.2E-07	5.3E-06
26	0718	2.2E-08	1.1E-06	0723	1.2E-06	1.3E-05	0725	5.1E-07	6.8E-06
26	1438	1.9E-09	4.6E-07	1445	7.2E-07	7.4E-06	1449	1.2E-07	3.9E-06
27	0158	2.1E-09	5.6E-07	0204	2.7E-07	3.9E-06	0209	7.0E-08	2.3E-06
27	0626	1.1E-08	6.7E-07	0630	2.6E-07	3.0E-06	0635	5.7E-08	1.8E-06
27	1159	7.2E-10	4.4E-07	1209	1.2E-06	1.2E-05	1216	2.0E-07	6.0E-06
27	2041	0.0E+00	5.2E-07	2050	2.1E-07	3.3E-06	2057	2.3E-08	1.9E-06
28	0544	5.1E-09	3.7E-07	0558	1.2E-06	1.3E-05	0601	4.9E-07	6.7E-06
28	1837	1.4E-10	2.3E-07	1939	1.8E-05	1.1E-04	2001	5.4E-06	5.5E-05
28	2117	5.3E-06	1.1E-05	2122	7.6E-07	2.1E-05	2124	4.9E-06	1.6E-05
31	0020	0.0E+00	1.1E-07	0055	3.1E-08	8.3E-06	0057	1.7E-09	4.2E-06
31	1108	0.0E+00	1.1E-07	1223	2.4E-07	5.7E-06	1254	1.3E-07	2.9E-06

SELECTED BURSTS (X-RAY)





The absolute flux values for GOES-1 plotted on the graph above are preliminary values.
This data from GOES (Geostationary Operational Environmental Satellite) are provided by NOAA Space Environment Laboratory.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

MARCH 1976

BECAUSE OF REQUIRED EQUIPMENT IMPROVEMENT, ONLY TWO OBSERVATIONS WERE MADE FOR MARCH 1976. CORONAL HOLES WERE OBSERVED ON

MARCH 13, 1976 AT SOUTH POLE 168° - 155°
NORTH POLE 32° - 27°

MARCH 31, 1976 AT SOUTH POLE 145° - 178°
NORTH POLE 21° - 17°

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1934	DEC 31	TATT	TTAT	AATA	TAAT	AAT-	ATA-	A-TA	-A-T	AAAT	-AA*	A*A*	TTTT	TTTT	TTTT	TTTT	TTT*	TT*T	T*T-	TTTT	TTTT	TTTT	TTTT	T*AA	AAAA	ATA*	AAAA
1935	1975 JAN 27	TTTT	ATAT	AA*A	T-TA	AATA	TATA	TATA	TATA	TATA	TATA	TATA	T-TT	TTTT	TAT-	TTTT	TTTT	TTTT	T*T-	TA-T	AT*A	TATA	TTAT	AAAA	AAAA	AAAA	AAAA	AAAA
1936	FEB 23	TAAA	AAA*	TAAA	AATA	AAAA	AAAA	AAAA	AAAA	ATAA	AAAA	AAAA	AAAA	TTTT	TTTA	TA*T	TTTT	TTTA	TAT*	TTTT	TTTA	T*TT	TTTA	T*TT	TTTT	TTTT	TTAA	AAAA
1937	MAR 22	AAAA	TAAT	TA*A	AAAA	AAAA	AAAA	ATA*	TAAA	AAAT	*TAT	TTTT	TTT*	TA*T	TTTT	TTTT	T*TA	T*TT	AATA	TTTA	ATTT	TAAT	TAAA	TTTT	TTAA	AAAA	AAAA	AAAA
1938	APR 18	AAAA	AAAA	AAAA	*AA*	AA-A	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	TTAA	AAAT	TT-T	TTT-	TTTT	TTTA	A*TT	TTT-	TTTT	TAA*	TTTT	-ATA	TATT	TTTA	TTAA	TTAA
1939	MAY 15	TTAA	TATA	ATAA	AAAT	TTA-	*AAA	AAAA	AAAA	AAAA	AAAA	AAAA	----	----	----	----	----	----	----	----	----	T-*-	*-*-	*-**	TTTT	TTAA	AAAA	AAAA
1940	JUN 11	AAAA	AAAA	AAAA	AAAA	*---	----	----	----	----	----	AAAA	TAAA	ATAA	AAAA	AAAT	TTTT	TTTT	AAAT	TA*A	ATTT	TTTT	TTT*	T*T*	TTAA	AAAA	AAAA	AAAA
1941	JUL 8	AAAA	AAAA	AAAA	AAAA	TAAA	ATA*	AAAT	A*AA	TATA	AAAA	TTAA	AAAA	A*-*	AA*A	ATAA	ATTT	TTTA	AATT	TTTT	TTTT	TTTT	TTTT	TTAT	AAAA	AAAA	AAAA	AAAA
1942	AUG 4	AAAA	AAAA	ATAA	TTAT	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	TTT-	ATTT	TTTT	TTTA	TTTT	TTTT	TTTT	TTTT	T-AT	ATTT	TTTT	AAAA	AAAA	AAAA
1943	AUG 31	AAAA	TAA*	TTAA	AAAA	TAAA	TAA*	AAT*	A*AA	AAAA	AAAA	AAAA	AAA*	AAAA	AAA*	A*AA	A*AA	TTTT	TTTT	TTTT	T-TT	TATT	TTTT	TTTT	TTTT	TTTT	AATA	AAAA
1944	SEP 27	AATA	AAAA	AAAA	TTTA	T-A-	A-A-	AA*A	AAAA	AAA*	AAAA	AAAA	*ATA	TTAA	AAAA	TTTA	TTTT	TTTT	AT*T	ATTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTAA	A-AA	AAAA
1945	OCT 24	TTTT	TTTT	TTTT	TTTT	TAAA	A*AA	AAAA	AAAA	AAAA	AAAA	A*A*	AAAA	AAA*	AT-A	T-AT	TATT	ATTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTAT	*TTT	TTTT	TTTT	TTTT
1946	NOV 20	ATA*	TTTA	TAAT	T*AT	*AAA	-A-A	-AAA	*A*A	AAAA	AAAA	AAAA	*A*A	AAAA	AAAA	AAAA	AAAA	AAAA	ATAA	TTTT	TTTT	TTTT	TTTT	TTTT	*TTT	TTTT	TTTT	TTTT
1947	T-TT	TTTT	TTTT	TTTT	TTTT	TTTT	TA*A	TATA	TATA	TATA	*ATA	*TAA	AAAA	*AAA	AAAA	AAAA	AAAA	AAAT	T*T*	TATA	T*TT	TTTT	TTTT	TTTT	TA*T	*T*T	TTTT	TTTT
1948	1976 JAN 13	TATT	T*TA	TATA	TTAA	TATA	TATA	TATA	AAAA	TAAA	-A-A	-A*A	*AAA	-A-A	AAAA	-A-A	AAAA	-A-T	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TATT	TTTT
1949	FEB 9	TATA	TTT-	T-A-	TTAT	T-AA	TATA	T-AT	AATA	TAAT	AA*T	TTAA	TAAA	AAAA	AAAA	AAAA	TAAA	TTTT	T*TA	TTTT	TTTT	TTTT	*TAT	ATAT	TTAA	TTTT	TTTA	TA*-
1950	MAR 7	TATA	TTTT	TTTT	TTTT	TTTT	TTTT	T-TA	AA*A	ATAA	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	AAAA	*T*T	ATTT	TTTT	TTTT	TTTT	T*TT	TTTT	T--	----	----	----

T = towards the sun A = away from the sun * = effect doubtful or not discernable - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Geophysics Laboratories at the Thule Geopole Station is used for the second half of the day.

SGD 380 Part I (Prompt)

FEBRUARY 1976 DATA

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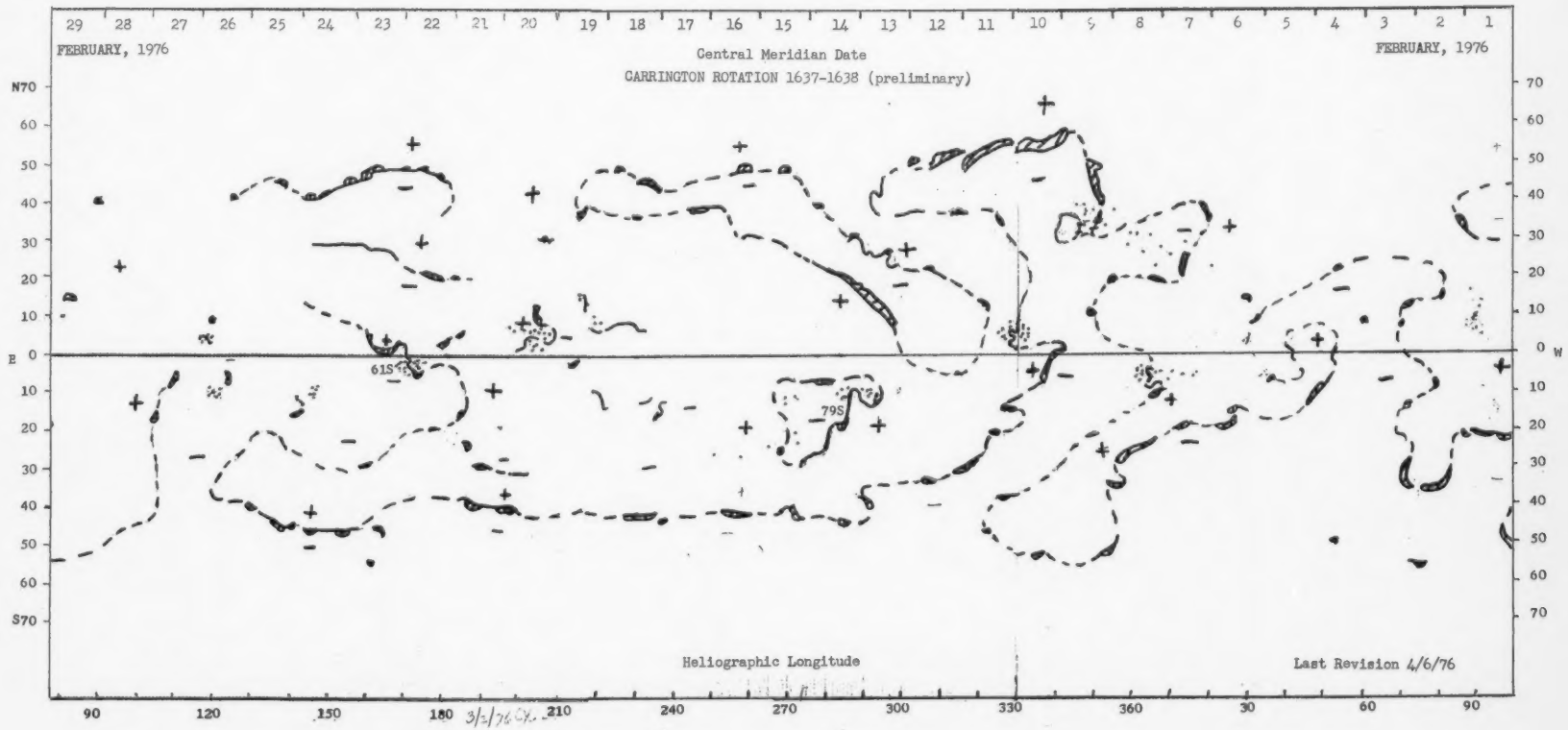
Hα SYNOPTIC CHART

FEBRUARY 1976



Maps of Solar Brightness in the 284 Å line of FeXV obtained from the D2-B AURA French Satellite.

The D2-B AURA satellite launched from French Guyana September 27, 1975, has been collecting spectroheliograms in the wavelength range 170-1300 Å since October 15, 1975. Spectroheliograms at the wavelength of the 284 Å FeXV line are received on a daily basis but some data are missing due to scheduling problems.

Instrumentation and Data Processing

A diagram of the instrument is given in Figure 1. Two nearly identical channels are used for the wavelength range 400-170 Å and 1300-500 Å. The 284 Å line of FeXV is monitored by channel A.

A plane objective grating (3600 lines/mm) receives parallel solar light and disperses it according to wavelength. A mirror focuses the light diffracted along one specified direction onto a slit. By rotating the grating, it is possible to select any wavelengths within the solar spectrum. Since this spectrometer has no entrance slit several monochromatic images are formed in the plane of the exit slit. If the wavelengths of consecutive images are sufficiently different, the images do not overlap and the measured flux can be unambiguously identified. This is the case for the 284 Å line.

The data consist of measurements of the flux selected at one wavelength by a slit crossing the solar image (Figure 2). An additional device designed to improve the pointing accuracy is used to scan the slit across the solar image. It is a servocontrolled plane mirror which can be slightly tilted around one axis. The spacecraft is slowly (1/4 turn per minute) rotating around the solar direction so that two-dimensional scans of the solar disk at one wavelength can be obtained.

The data can be rearranged as a set of one dimensional projections of a two-dimensional image. Each measured value corresponds to definite values of ρ and Θ. The parameter ρ can take one of 64 values between -25' and +25'; Θ is randomly distributed. The data are distributed among one hundred intervals of Θ, each 3.6° wide. Within each interval appropriate interpolation is performed to produce a projection perpendicular to the mean angular direction for that interval. The solar image is reconstructed by the central section theorem and Fourier transform procedure.

In order to publish soon after observation, some limitations in the significance of the results must be accepted:

1) The straylight level is not yet accurately known. A constant background of approximately 30 counts per image element (0.78' x 0.78') is subtracted. If the straylight level is lower than this a constant but unknown bias in the flux values will result.

2) Emission peaks within active regions can be underestimated by 10 to 20 percent due to an insufficient number of iterations in the computations.

3) The estimated absolute intensity may be revised in the future by a factor as large as two. This may arise from reassessment of the calibration data and analysis of ageing in orbit which is presently ignored.

Publication Format

The results are plotted using constant level curves. The lowest level is set to be just above noise level. The count rate for each level is tabulated next to the Figure. The 284 Å data are corrected for Sun-Earth distance variations. The visible solar limb is drawn as a circle with cardinal points indicated.

The universal time at the middle of the acquisition process is indicated. The sensitivity factor enables conversion of the displayed count rate into intensity expressed in ergs cm^{-2} str^{-1} sec^{-1} or mW m^{-2} str^{-1}. (Presently 1 count = 12.8 mW m^{-2} str^{-1}.)

Results Available on Special Request

These data have been supplied through the cooperation of J. P. Delboudiniere, Centre National de la Recherche Scientifique, Laboratoire de Physique Stellaire et Planetaire, Boite Postale No. 10, 91 Verrieres-le-Busson, France. Additional information and data are available from the investigator.

The 284 Å data can be produced on request in the form of an array of 65 x 65 count rate values within elements of 0.78 x 0.78 square arc minutes covering a field 50 x 50 arc minutes wide. Other wavelengths to be processed are monitored at a lower sampling frequency (2 to 4 days). These are FeXVI 335 Å, HeII 304 Å, HeI 584 Å, OIV 555 Å, OV 630 Å, CIII 977 Å, and HI 1216 Å.

Figure 1

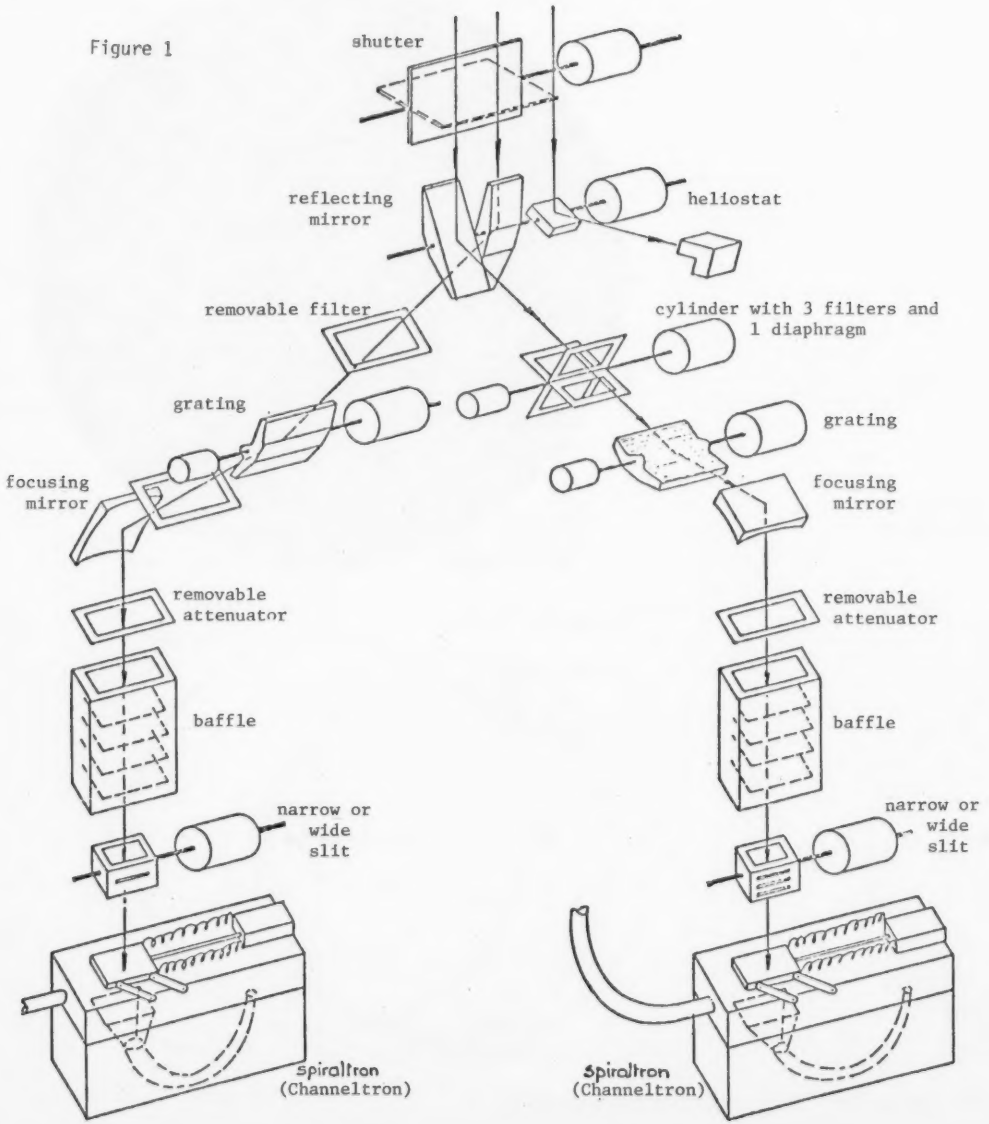
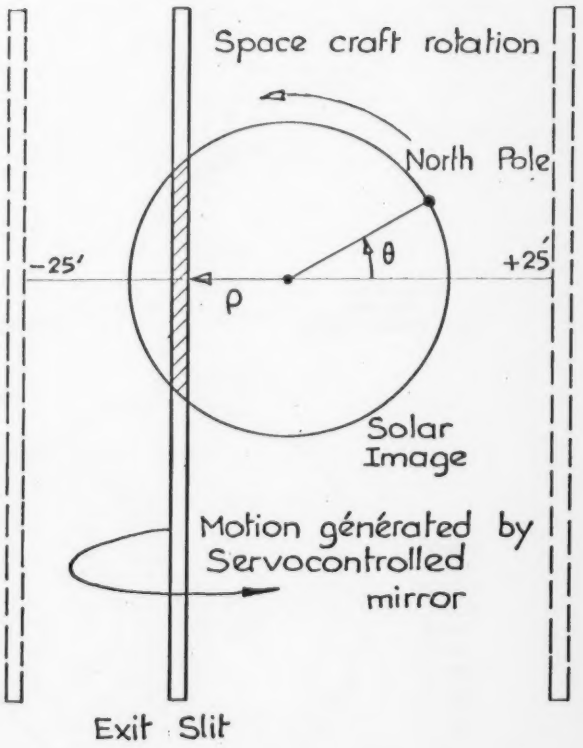
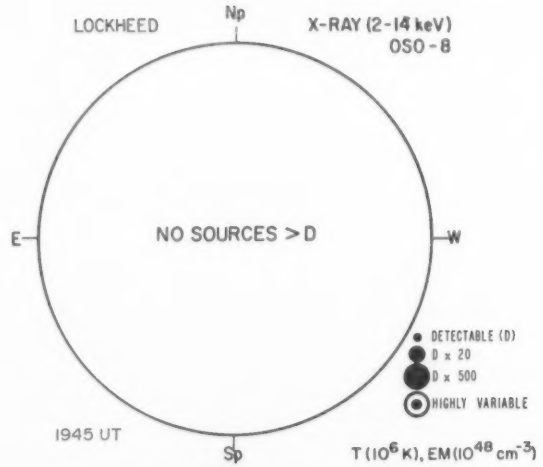
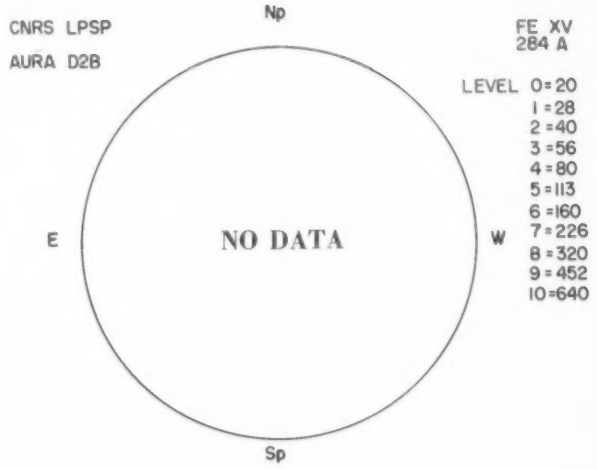


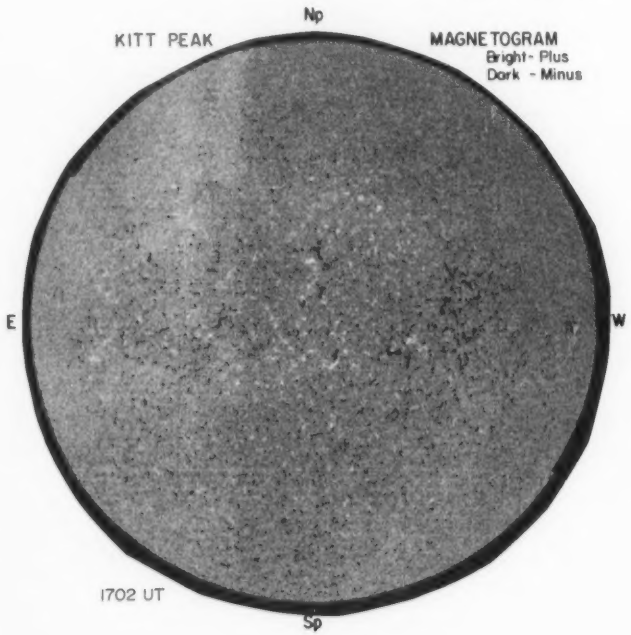
Figure 2

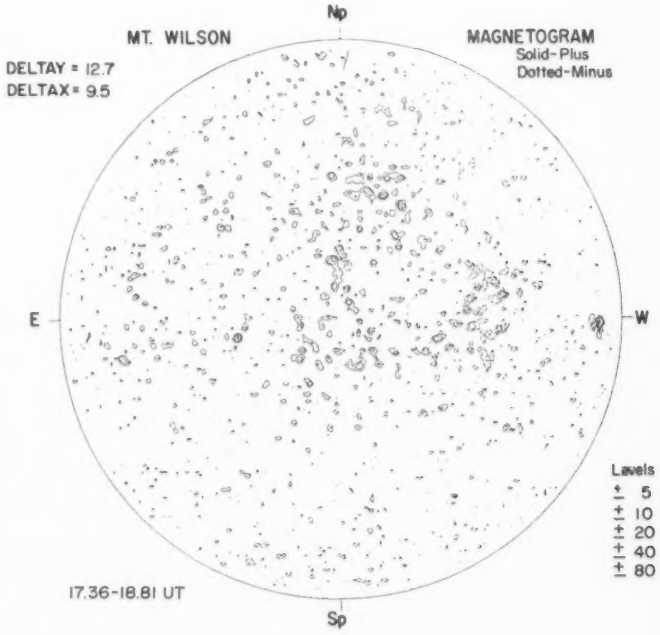


FEBRUARY 1, 1976 (P =-11.87, B_0 =-5.99, L_0 =100.42)



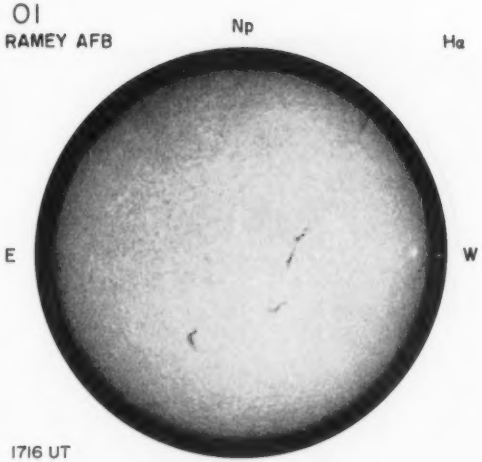






01

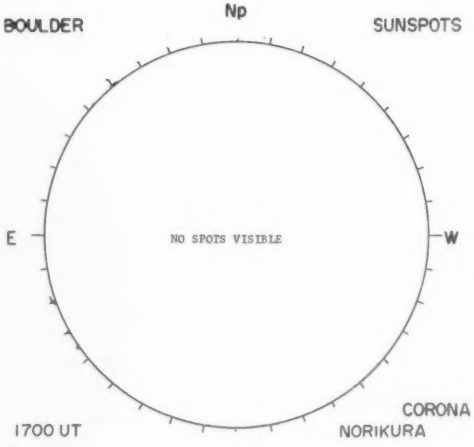
RAMEY AFB



Hα

1716 UT

BOULDER



SUNSPOTS

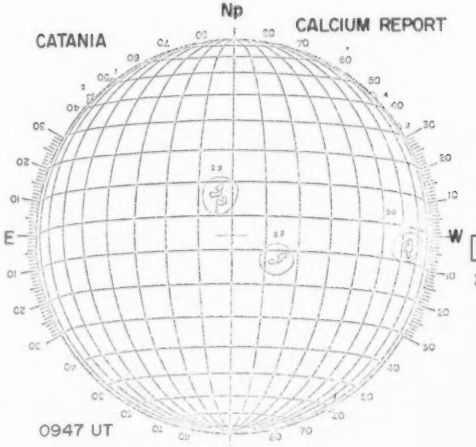
1700 UT

CORONA

NORIKURA

CATANIA

CALCIUM REPORT



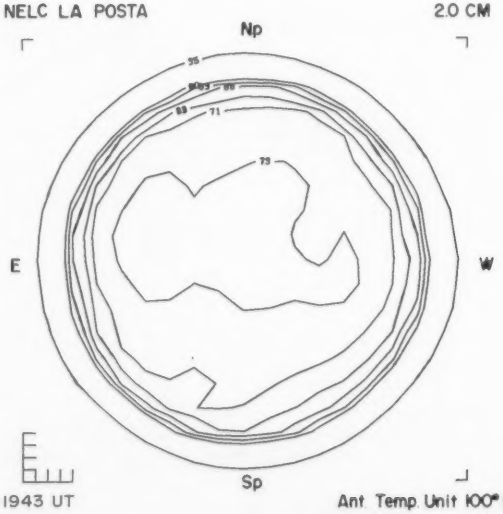
FAIR GD

20 0791 --

0947 UT

NELC LA POSTA

2.0 CM

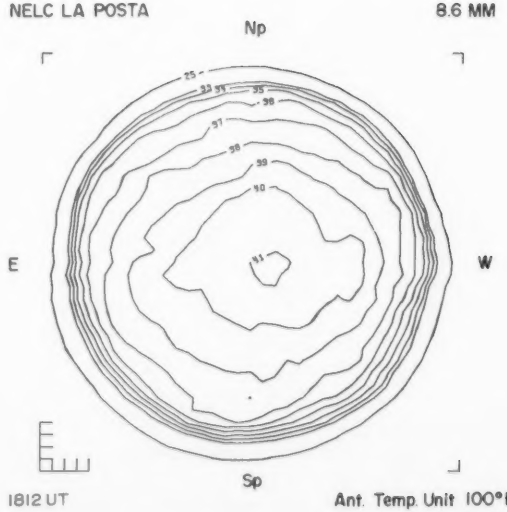


1943 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

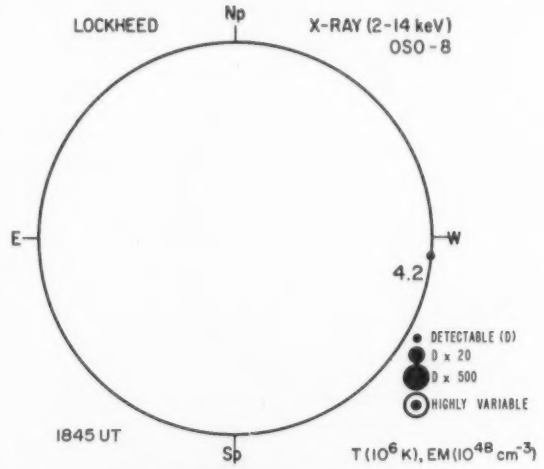
8.6 MM

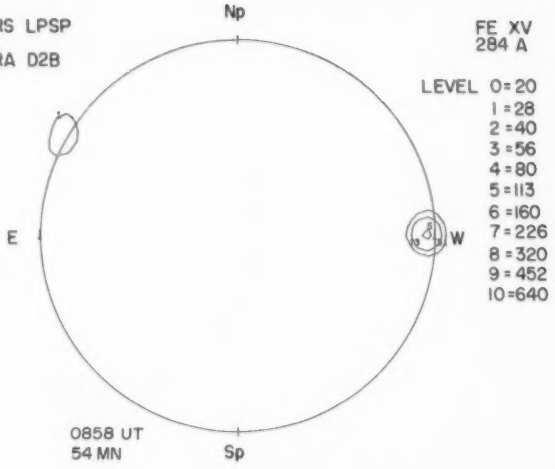


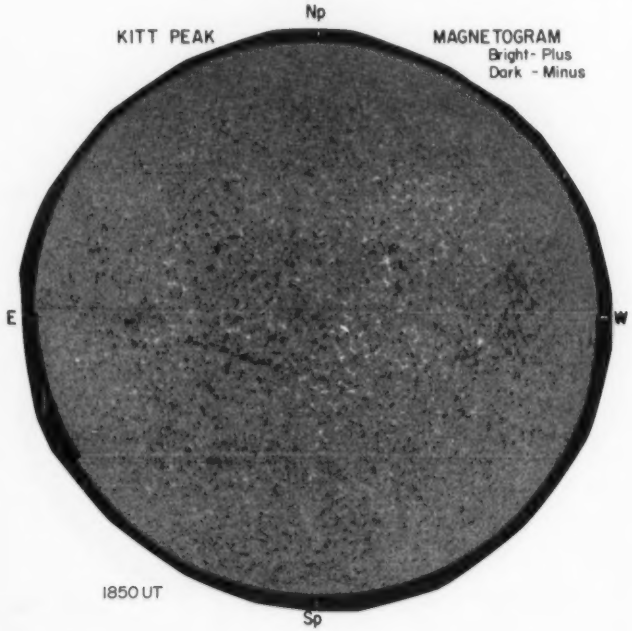
1812 UT

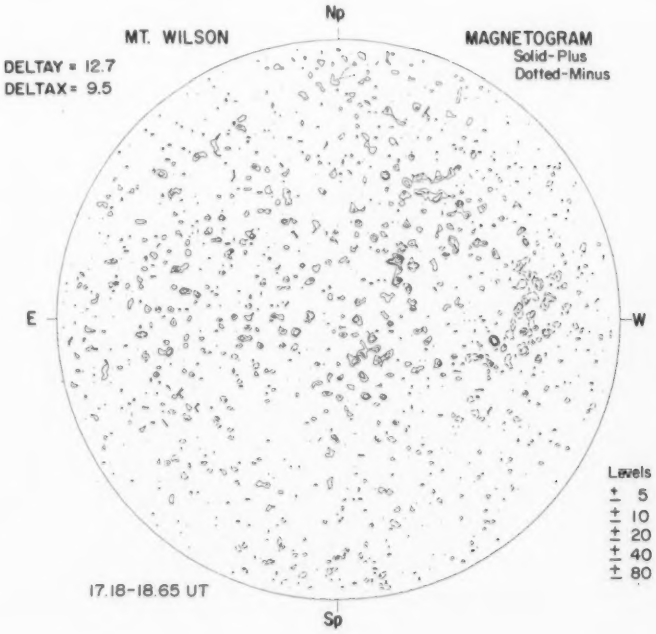
Ant. Temp. Unit 100° K

FEBRUARY 2, 1976 (P =-12.28, B_0 =-6.06, L_0 =87.26)



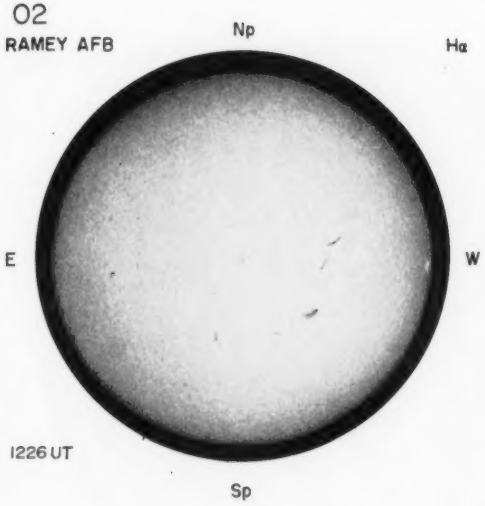




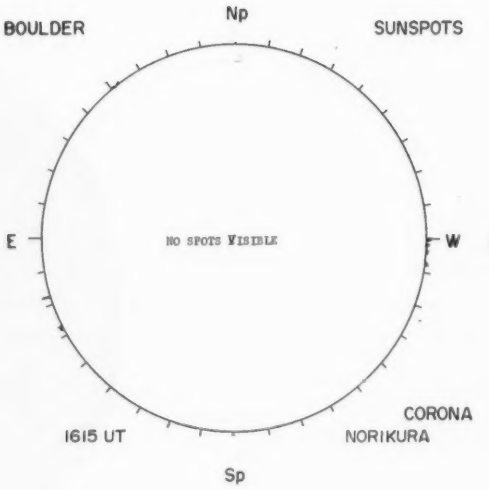


02

RAMEY AFB



BOULDER

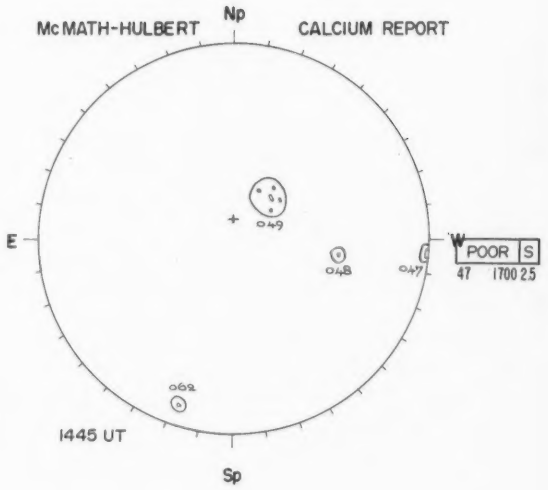


SUNSPOTS

CORONA

NORIKURA

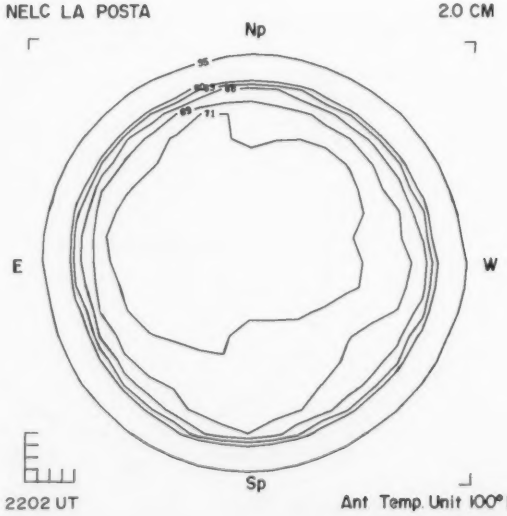
McMATH-HULBERT



CALCIUM REPORT

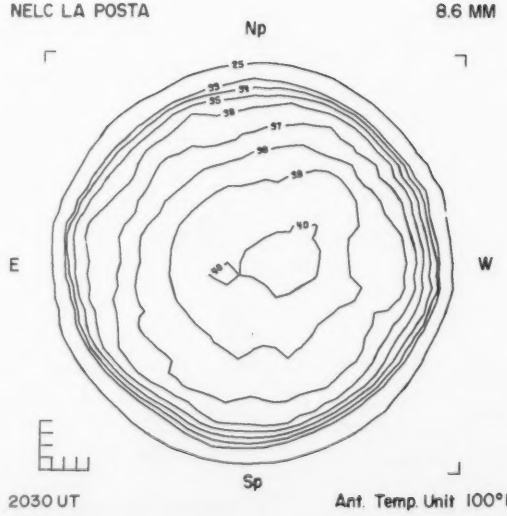
NELC LA POSTA

2.0 CM

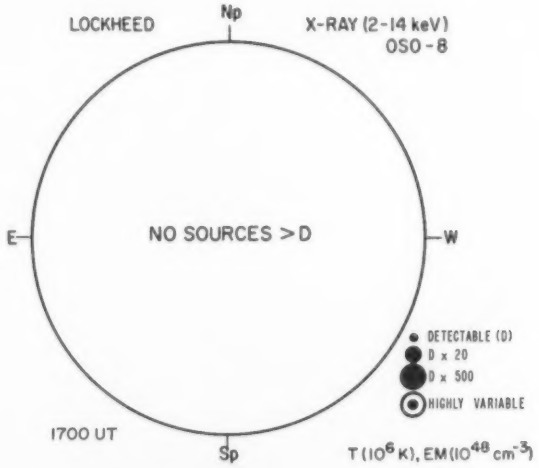


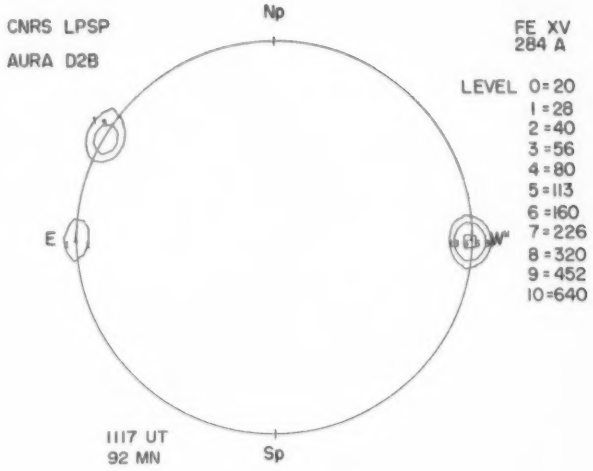
NELC LA POSTA

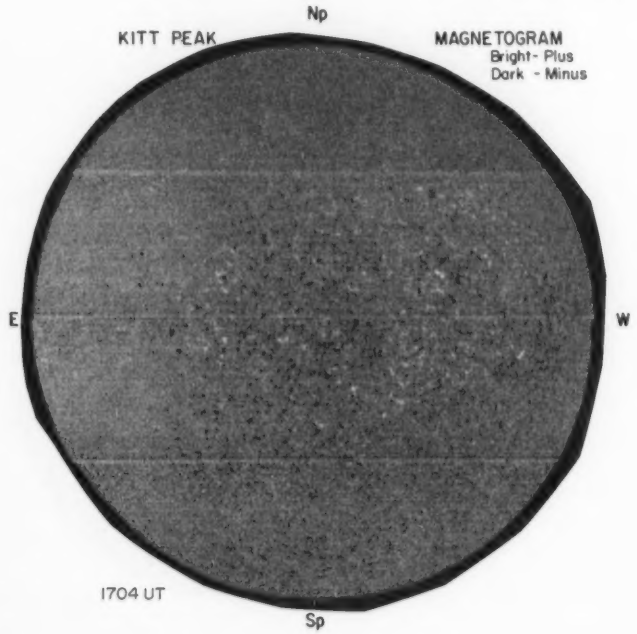
8.6 MM

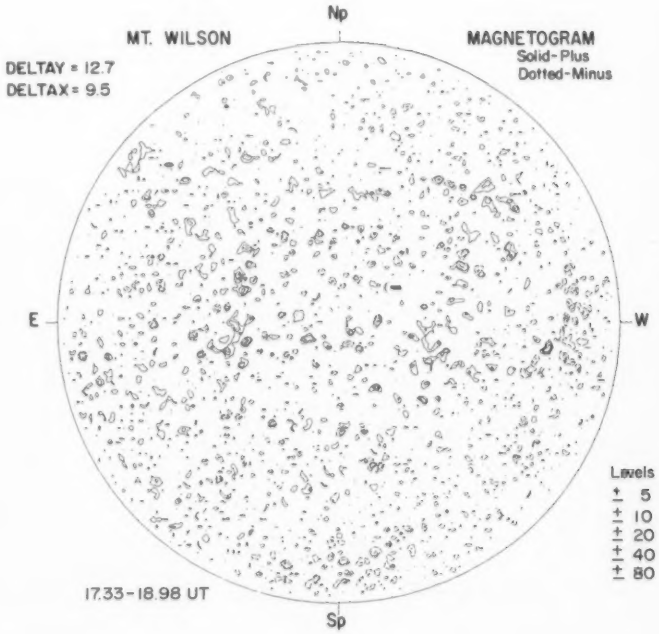


FEBRUARY 3, 1976 (P =-12.68, B_0 =-6.13, L_0 =74.09)



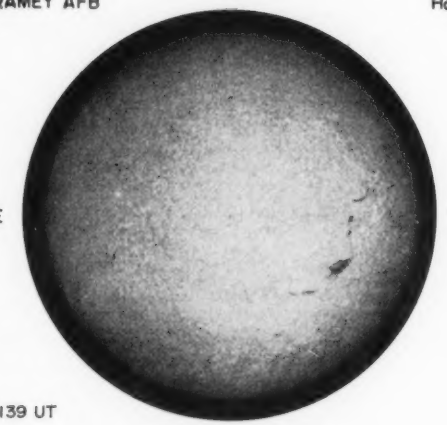






03.

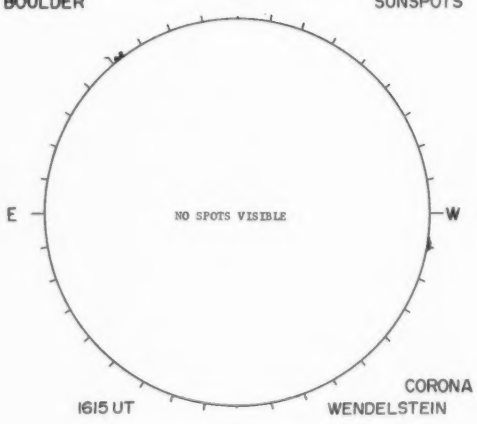
RAMEY AFB



1139 UT

Hα

BOULDER



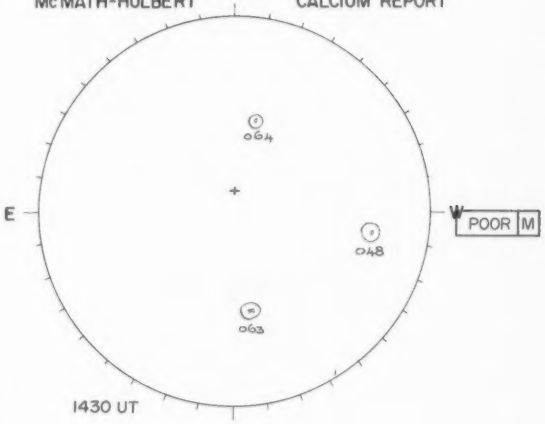
1615 UT

SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT



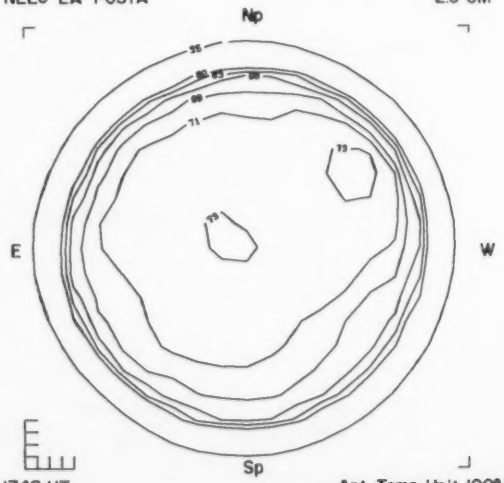
1430 UT

CALCIUM REPORT

POOR | M

NELC LA POSTA

2.0 CM



1748 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM

NO DATA

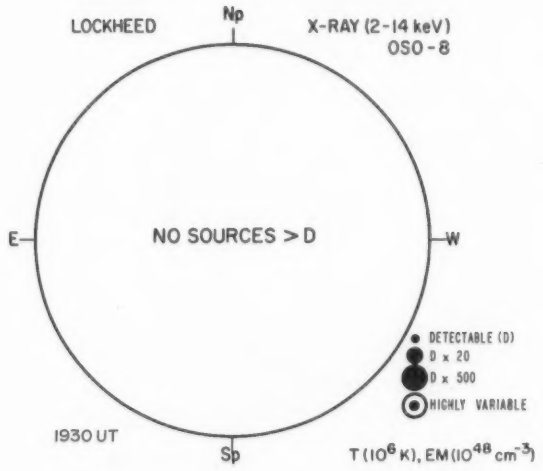
WEATHER

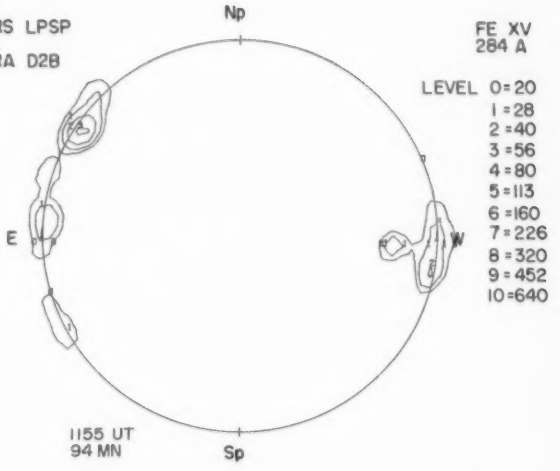
---- UT

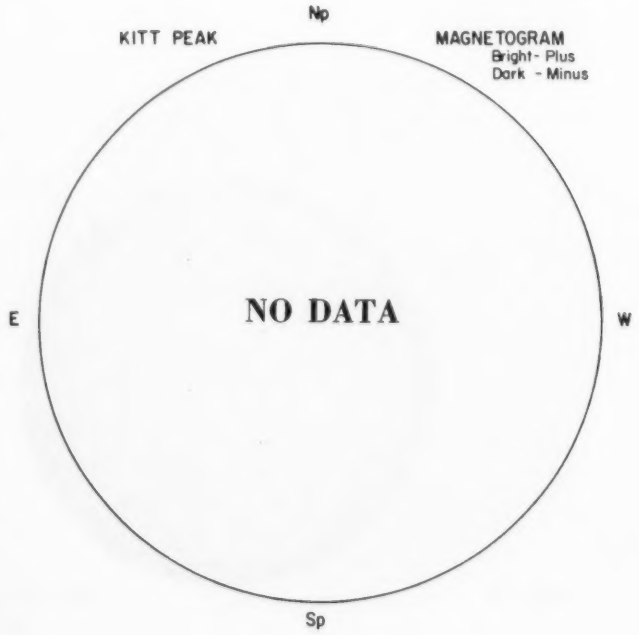
Ant. Temp. Unit 100° K

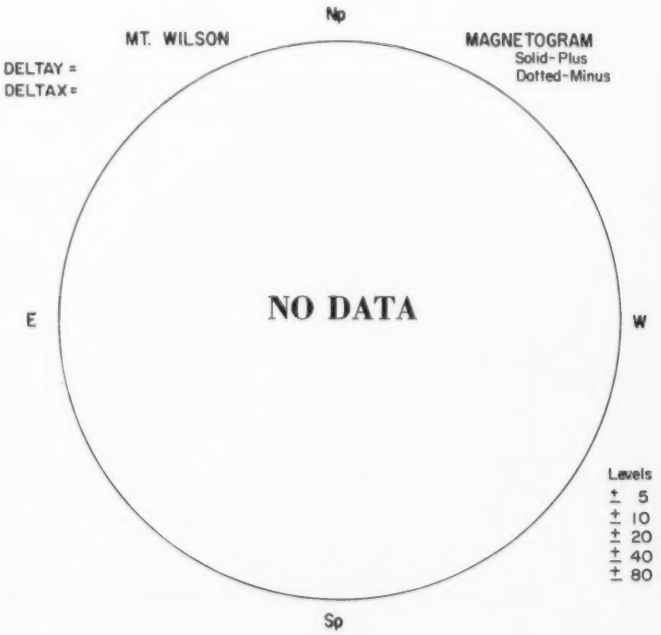
41
Feb 76

FEBRUARY 4, 1976 (P =-13.08, B_0 =-6.20, L_0 =60.92)



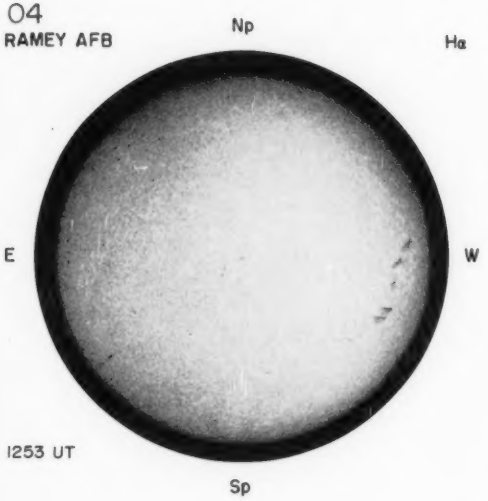






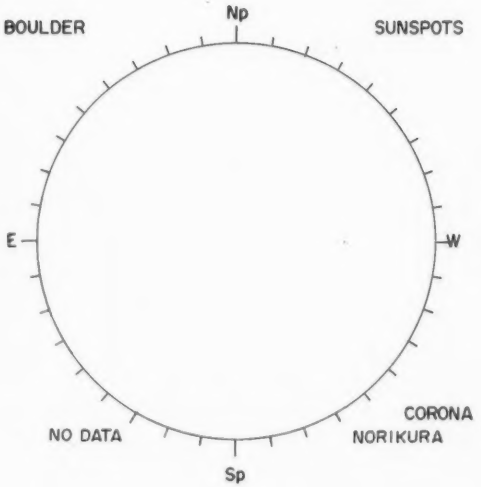
04

RAMEY AFB



Hα

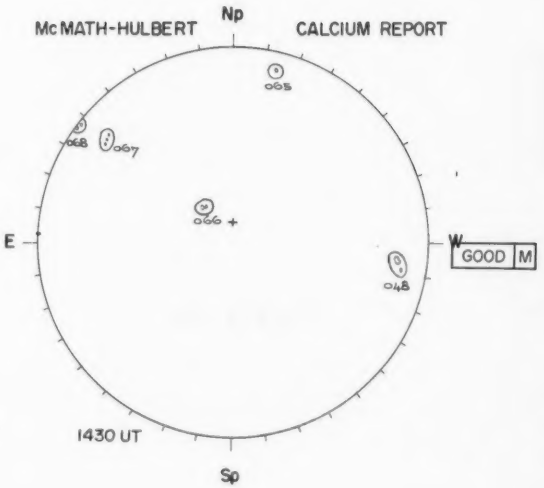
BOULDER



SUNSPOTS

McMATH-HULBERT

CALCIUM REPORT



NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

Sp

---- UT

Ant Temp Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

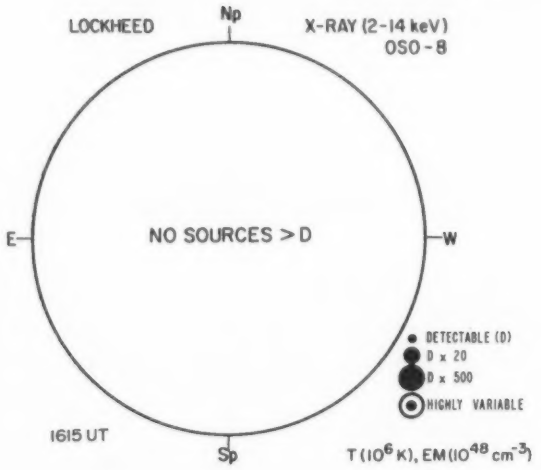
W

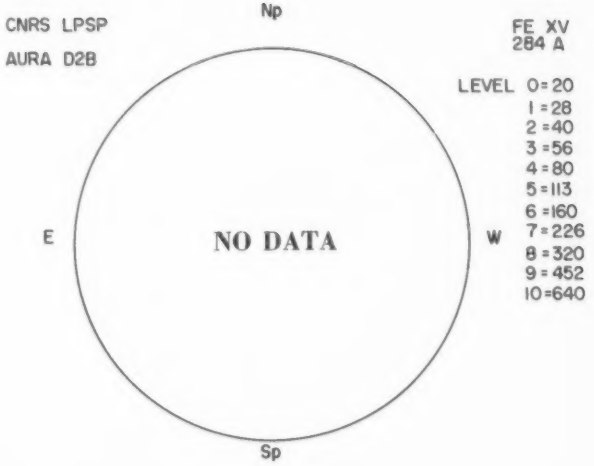
Sp

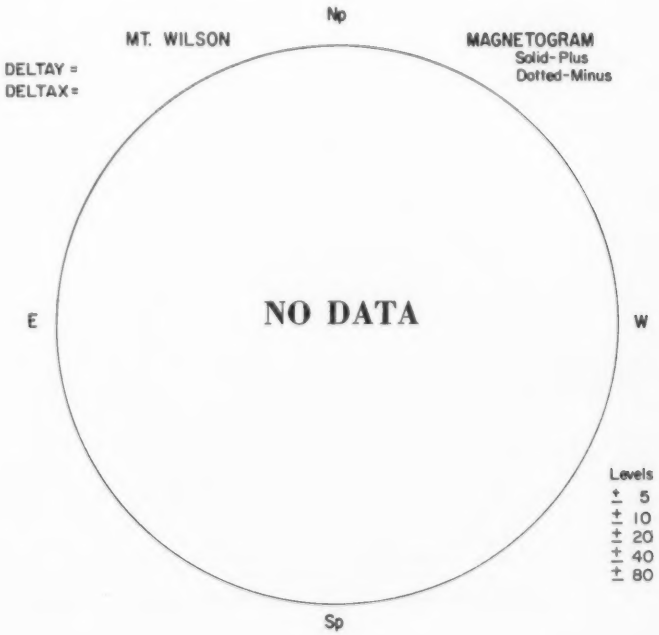
---- UT

Ant. Temp. Unit 100°K

FEBRUARY 5, 1976 (P =-13.48, B_0 =-6.27, L_0 =47.76)

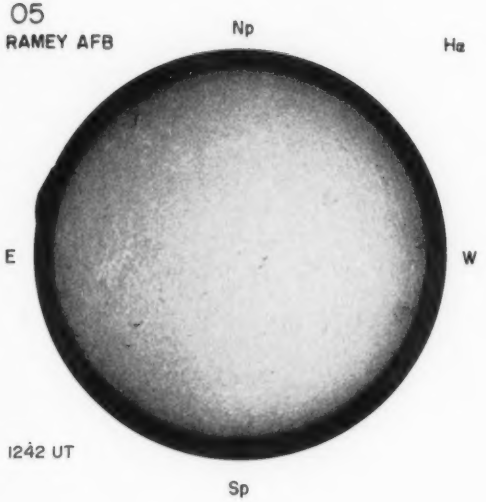




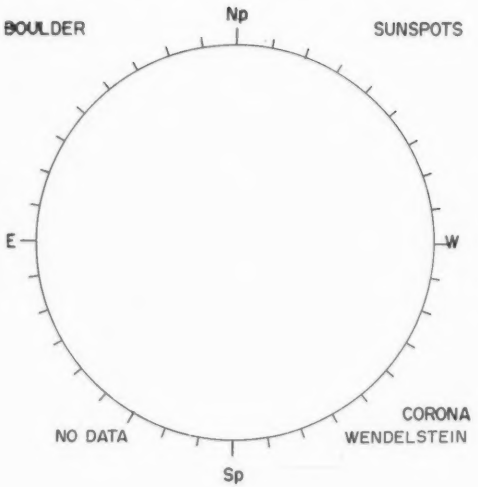


05

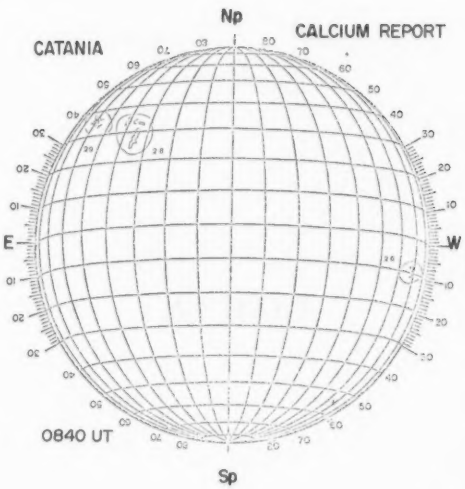
RAMEY AFB



BOULDER



CATANIA



FAIR | EC

NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

Sp

---- UT

Ant. Temp. Unit 100° K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

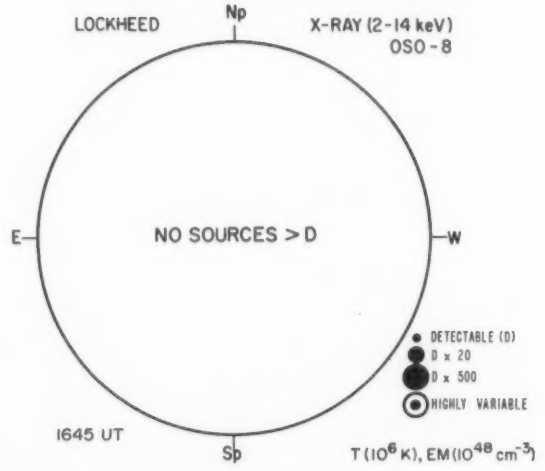
W

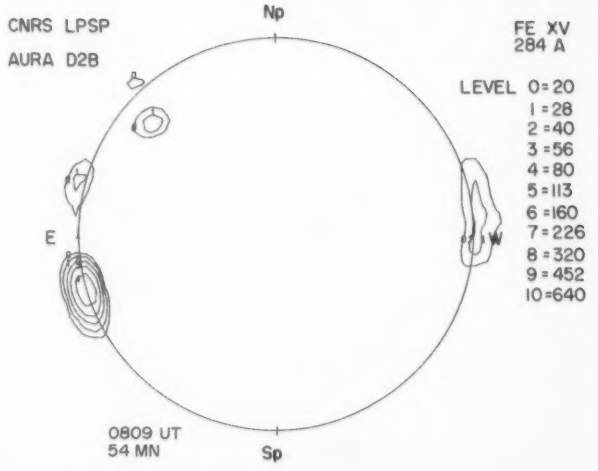
Sp

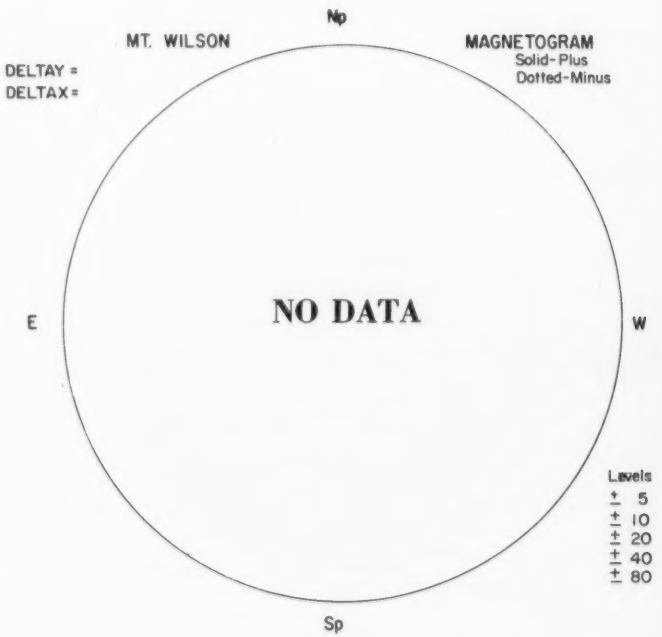
---- UT

Ant. Temp. Unit 100° K

FEBRUARY 6, 1976 (P =-13.87, B_o =-6.33, L_o =34.59)

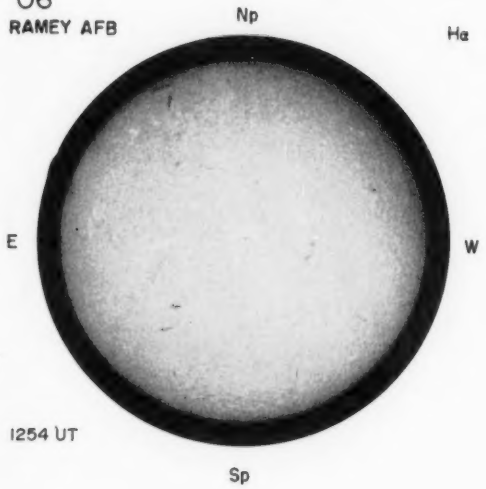




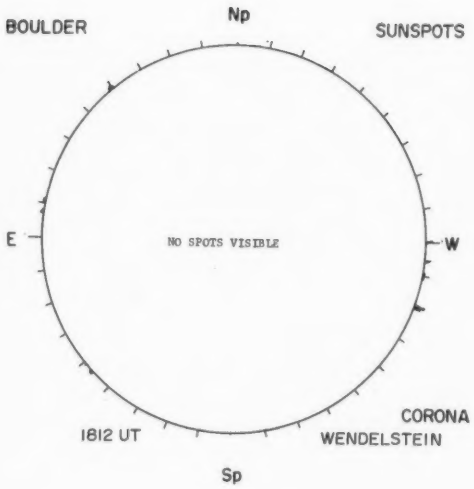


06

RAMEY AFB



Hα BOULDER



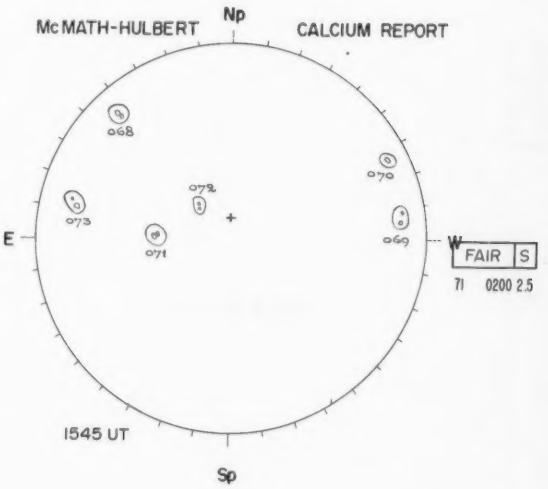
SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT

CALCIUM REPORT



FAIR | S

71 0200 2.5

NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

Sp

---- UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

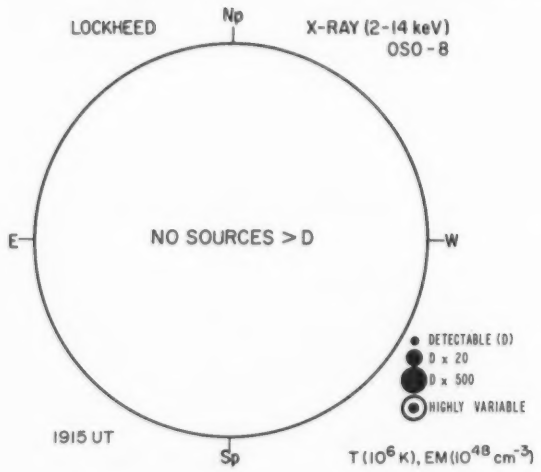
Sp

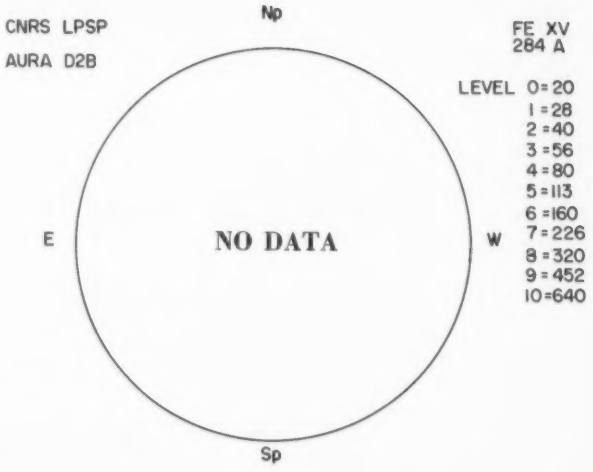
---- UT

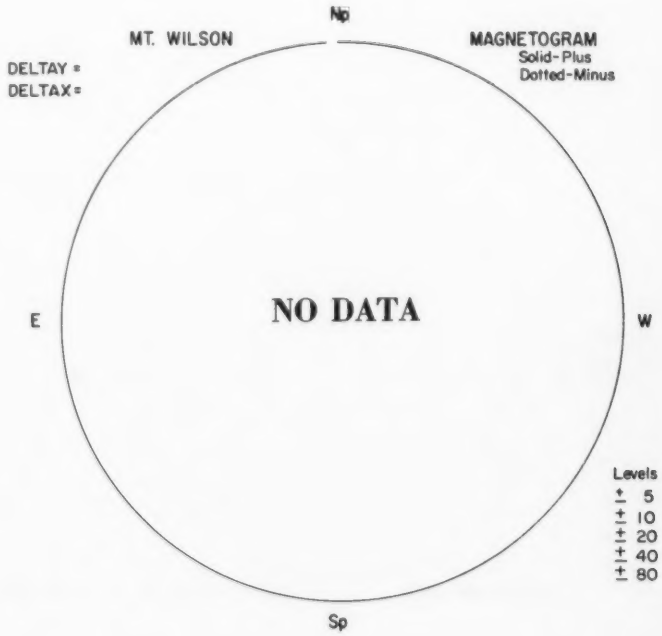
Ant. Temp. Unit 100°K

47
Feb 76

FEBRUARY 7, 1976 (P =-14.26, B_0 =-6.39, L_0 =21.42)

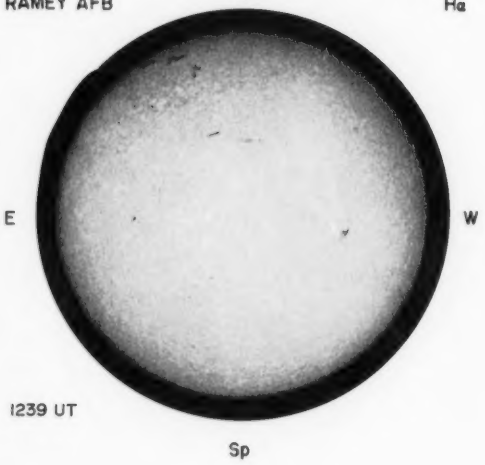






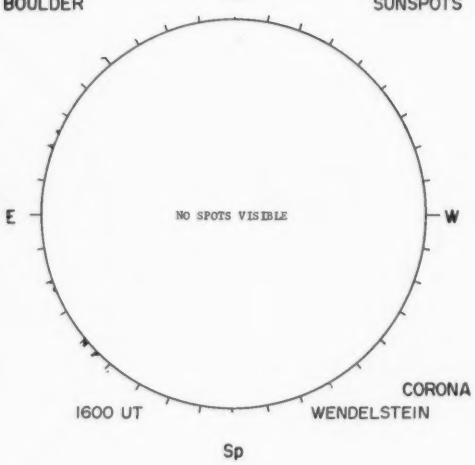
07

RAMEY AFB



1239 UT

BOULDER

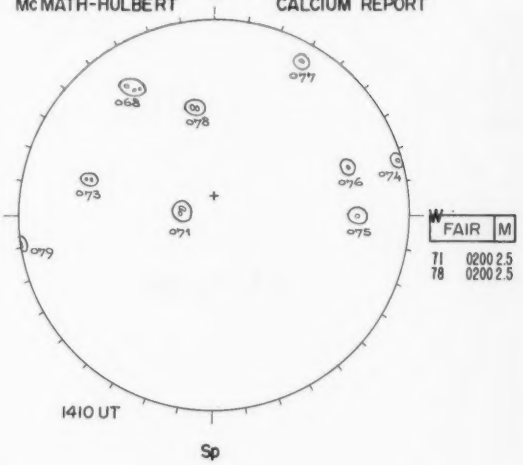


1600 UT

CORONA

WENDELSTEIN

McMATH-HULBERT



1410 UT

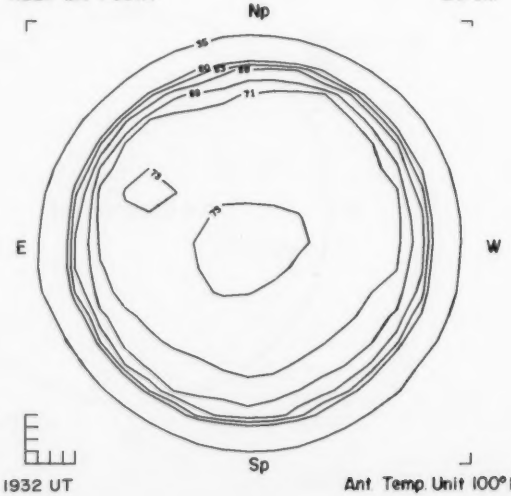
FAIR M

71 0200 2.5

78 0200 2.5

NELC LA POSTA

2.0 CM



1932 UT

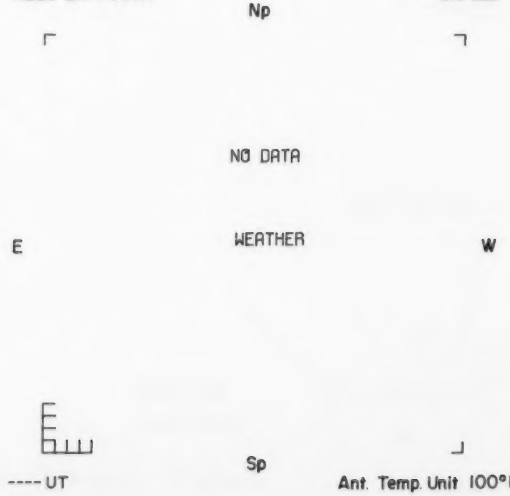
Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

NO DATA

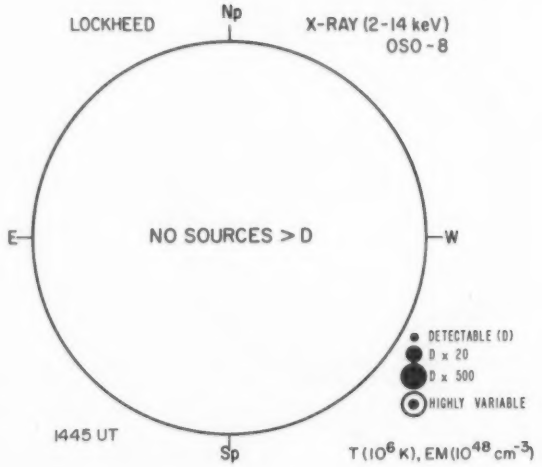
WEATHER

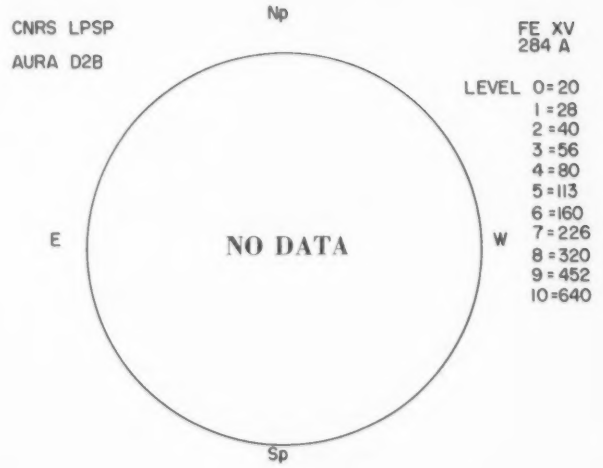


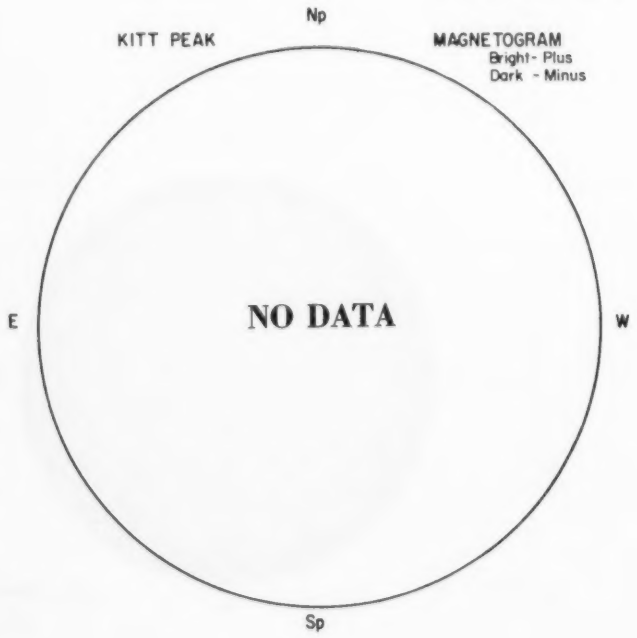
---- UT

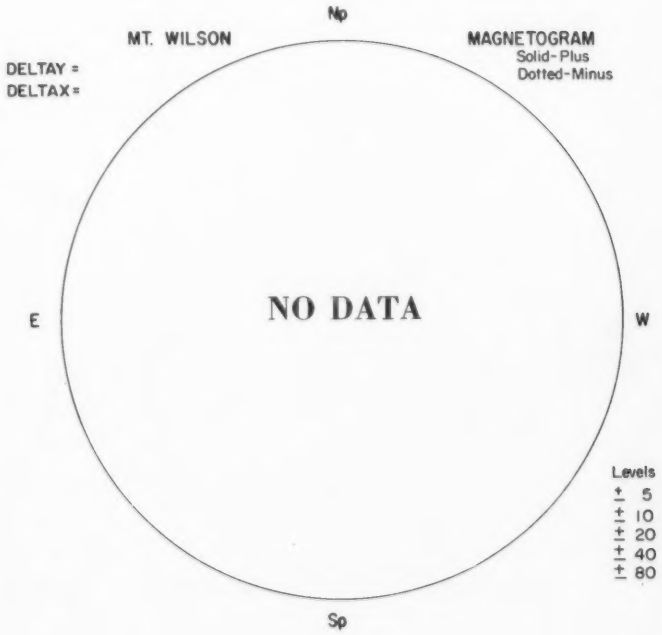
Ant. Temp. Unit 100°K

FEBRUARY 8, 1976 (P =-14.64, B_o =-6.45, L_o =8.26)





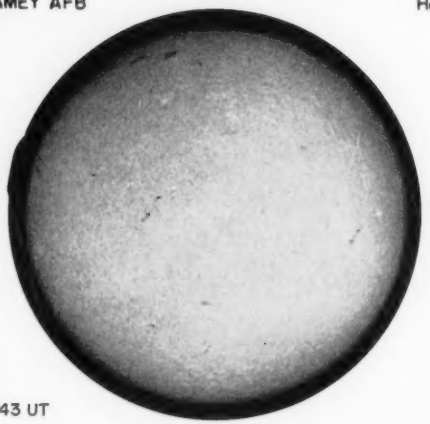




08

RAMEY AFB

Np



E W

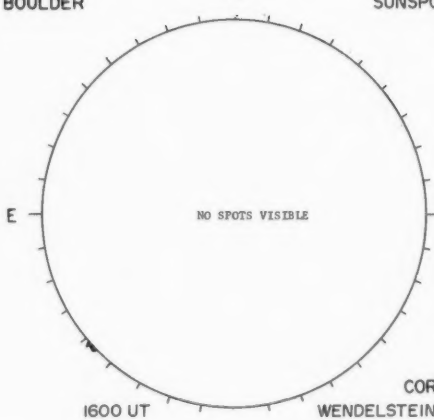
1243 UT

Sp

Hα

BOULDER

Np



E W

1600 UT

Sp

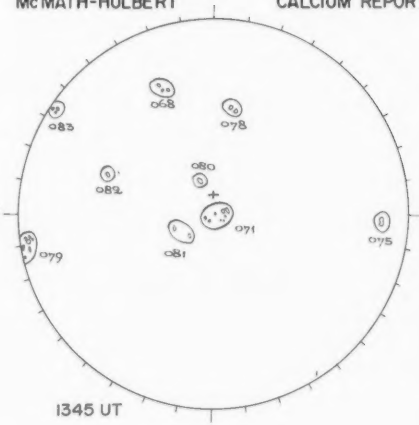
SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT

Np



E W

1345 UT

Sp

CALCIUM REPORT

GOOD D

NELC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

---- UT

Sp

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

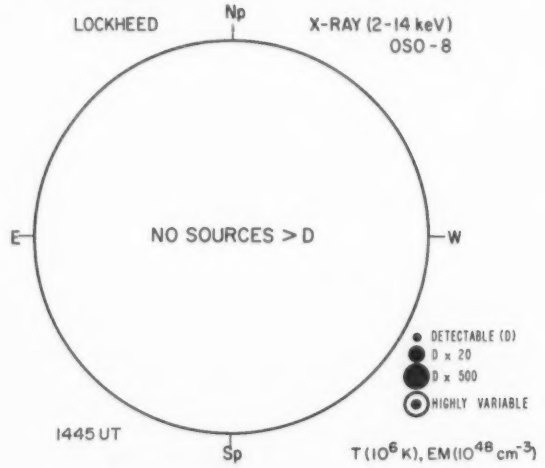
E EQUIPMENT W

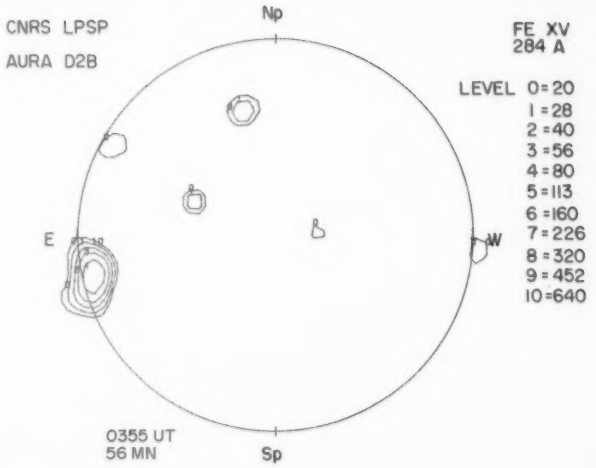
---- UT

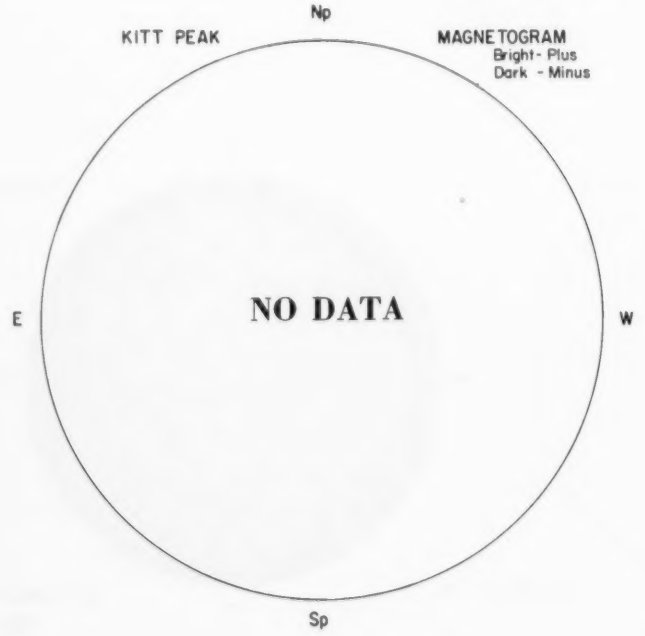
Sp

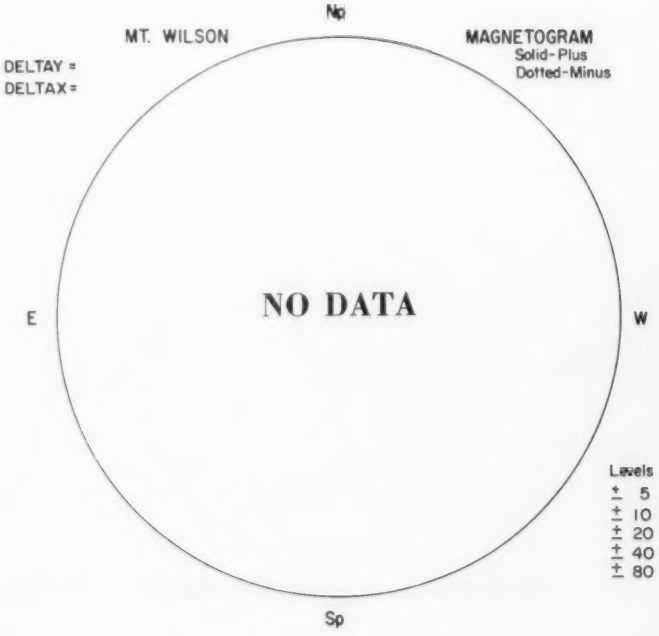
Ant. Temp. Unit 100°K

FEBRUARY 9, 1976 (P =-15.01, B_o =-6.51, L_o =355.09)



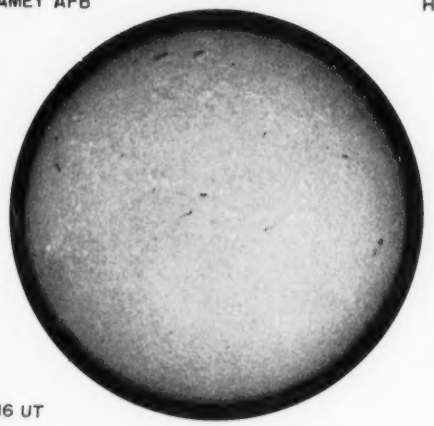






09

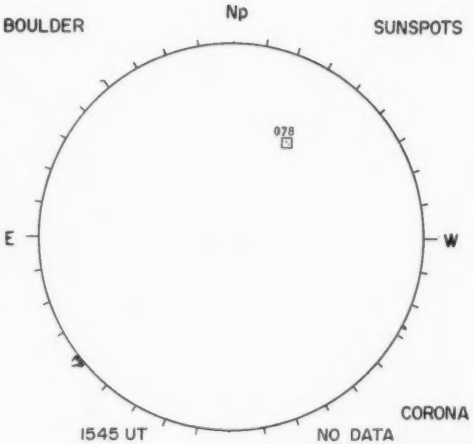
RAMEY AFB



1216 UT

Hα

BOULDER



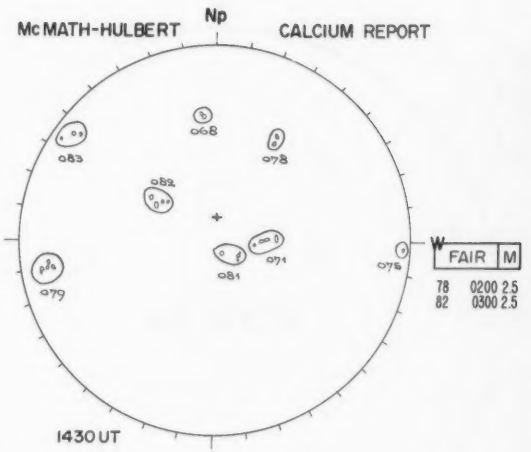
1545 UT

SUNSPOTS

NO DATA

CORONA

McMATH-HULBERT



1430 UT

CALCIUM REPORT

	FAIR	M
78	0200	2.5
82	0300	2.5

NELC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

Sp

----UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E EQUIPMENT W

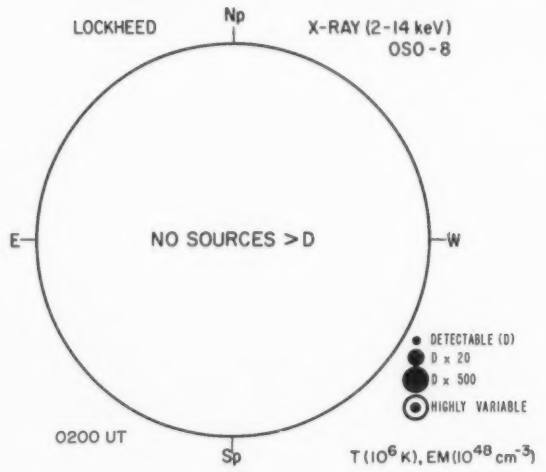
Sp

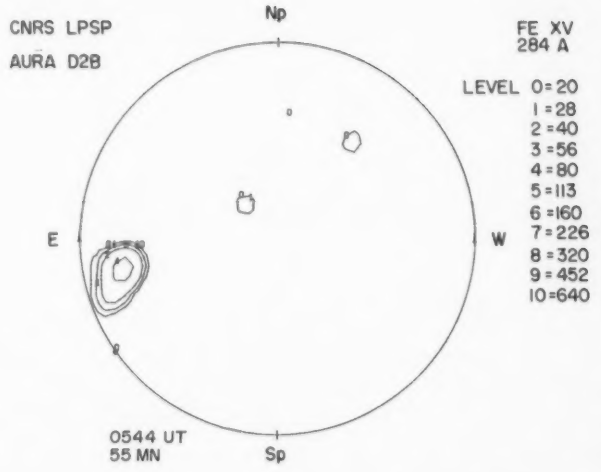
---- UT

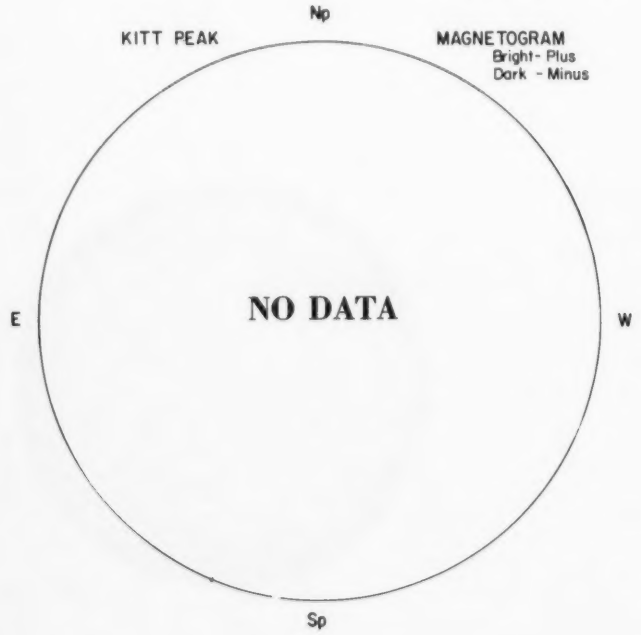
Ant. Temp. Unit 100°K

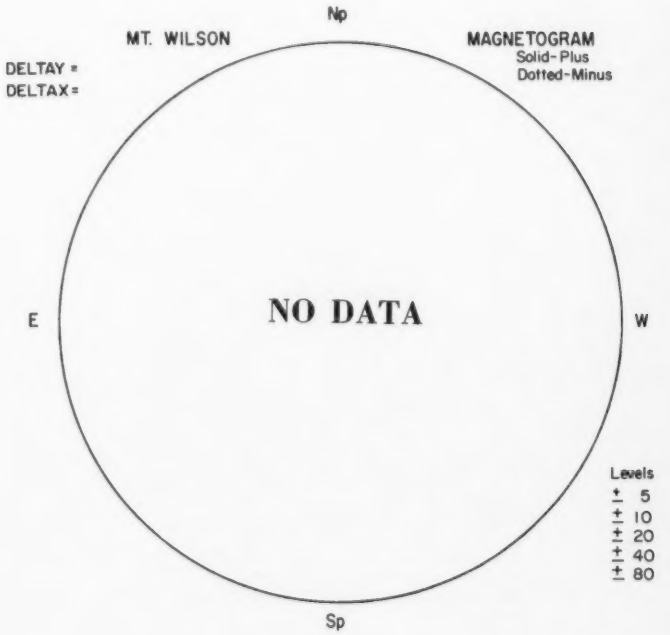
53
Feb 76

FEBRUARY 10, 1976 (P =-15.38, B_0 =-6.56, L_0 =341.92)







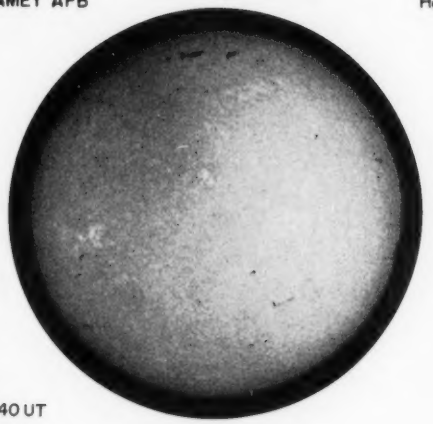


10

RAMEY AFB

Np

Hα



E W

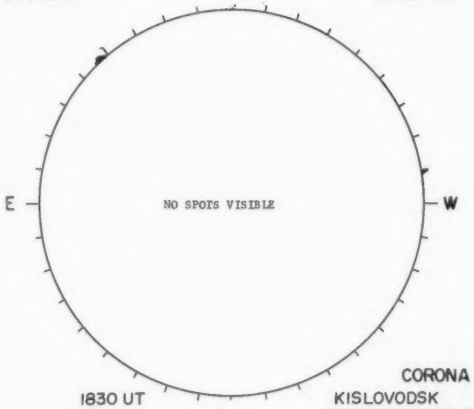
1840 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1830 UT

Sp

CORONA

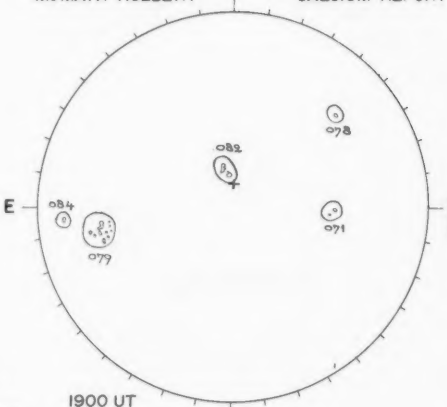
KISLOVODSK

NO DATA 220°,300°

McMATH-HULBERT

Np

CALCIUM REPORT



E W

GOOD M

1900 UT

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E WEATHER W

Sp

Ant. Temp. Unit 100°K

---- UT

NELC LA POSTA

Np

8.6 MM

NO DATA

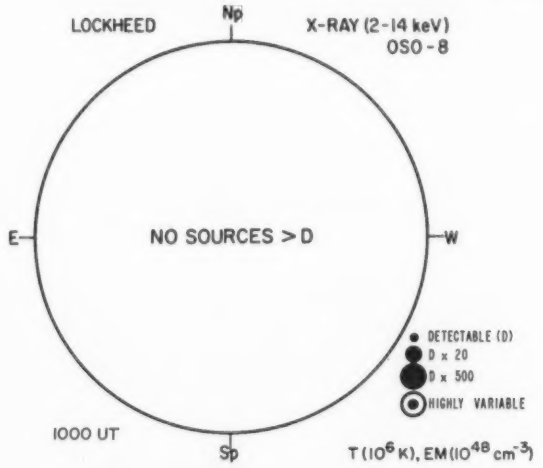
E WEATHER W

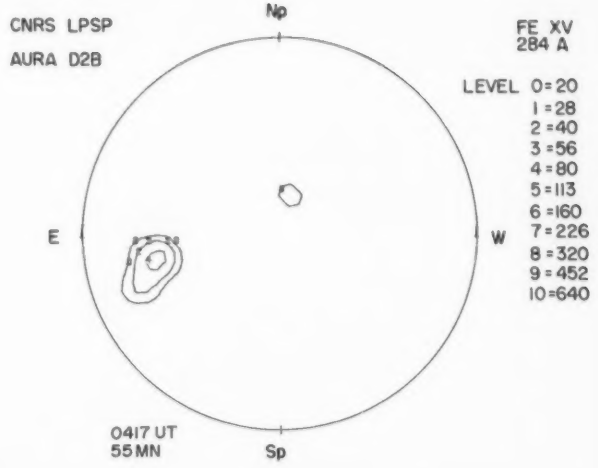
Sp

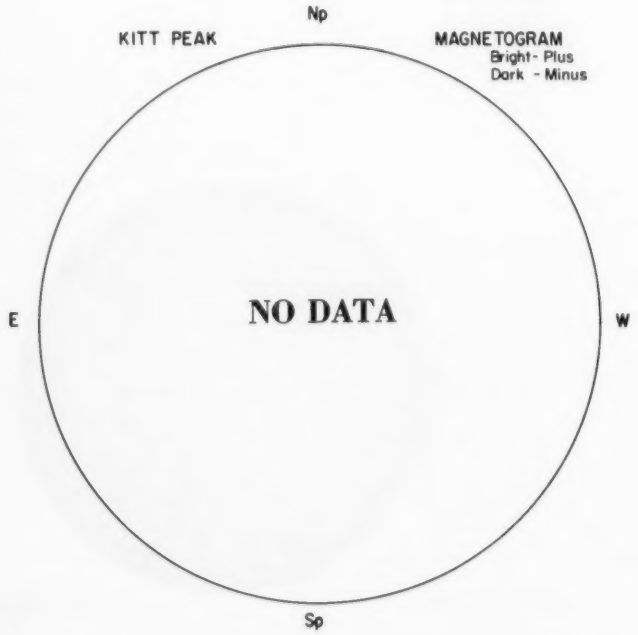
Ant. Temp. Unit 100°K

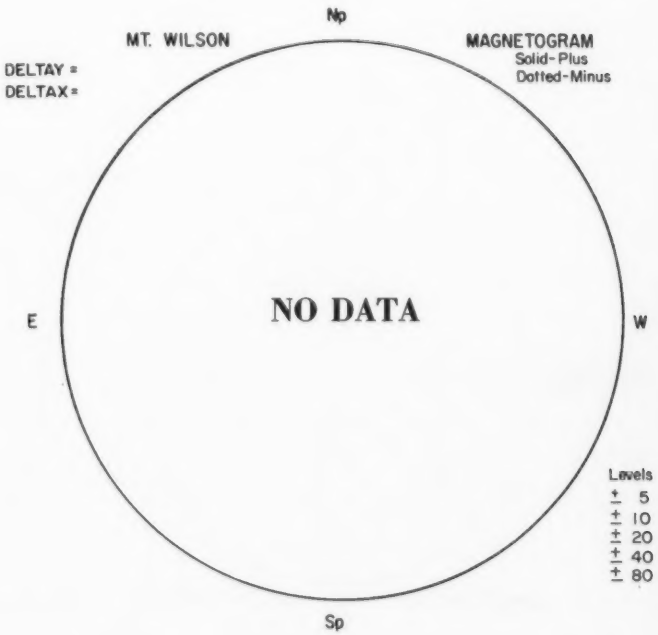
---- UT

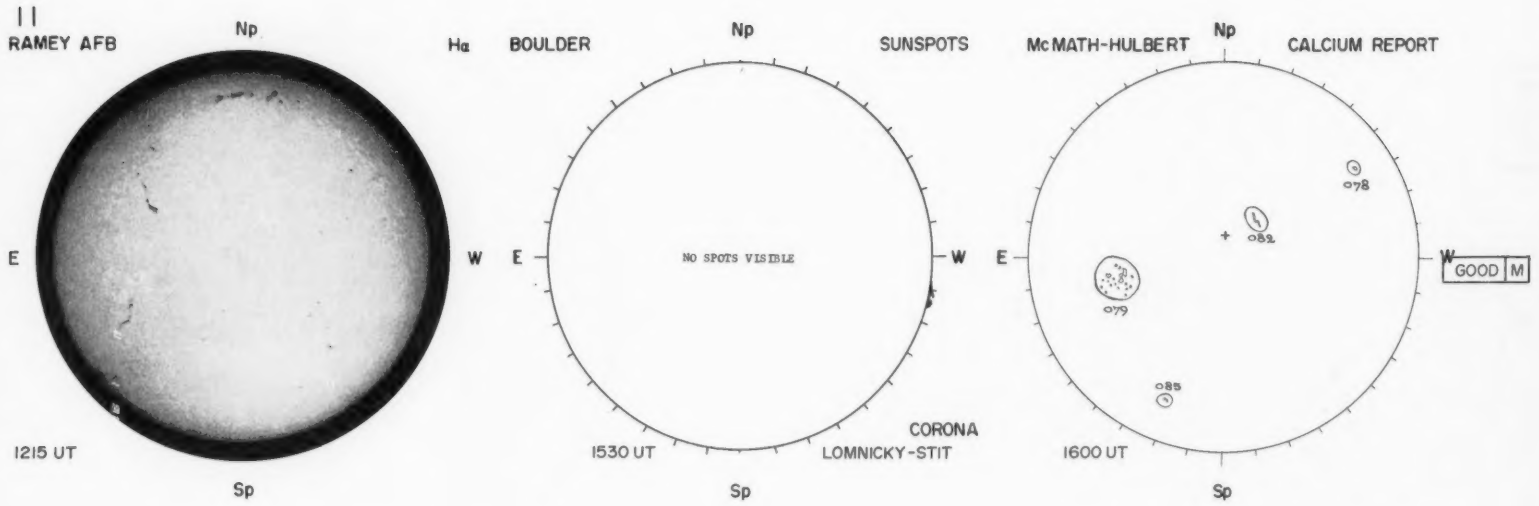
FEBRUARY 11, 1976 (P =-15.75, B_o =-6.62, L_o =328.76)

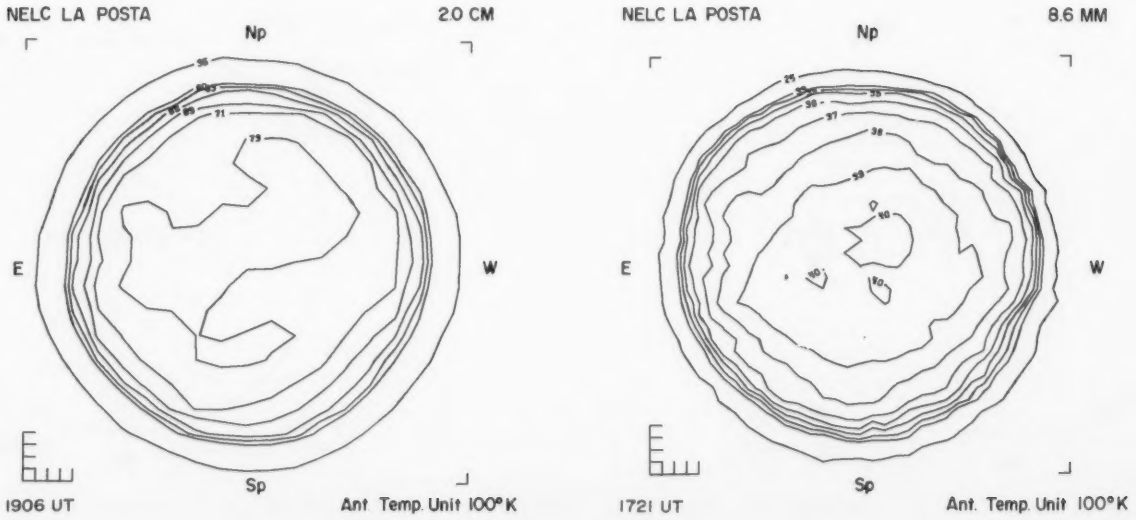




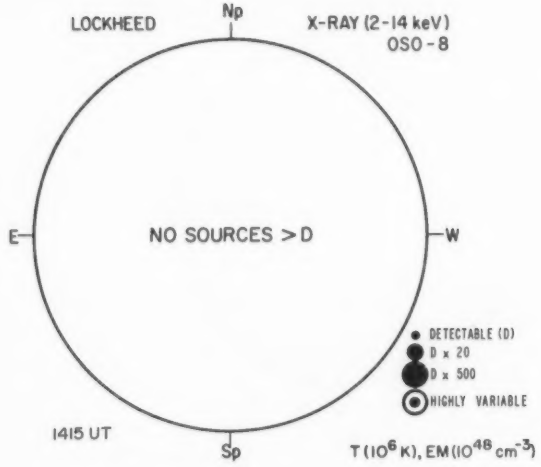


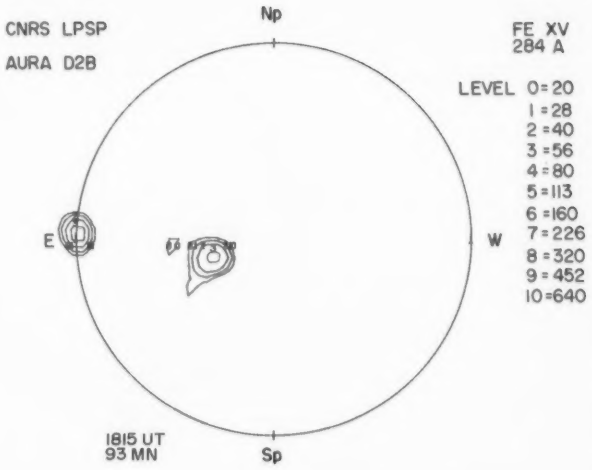


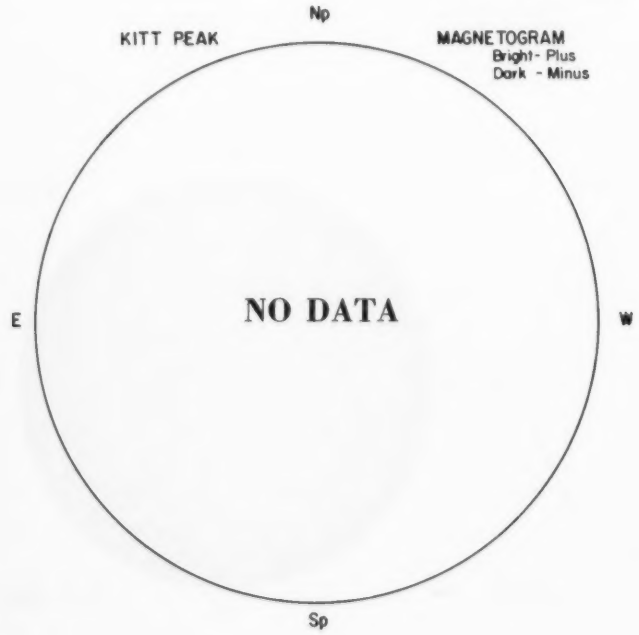

RAMEY AFB
Np
Hα
E
W
Sp
1215 UT
BOULDER
SUNSPOTS
NO SPOTS VISIBLE
1530 UT
CORONA
LOMNICKY-STIT
McMATH-HULBERT
CALCIUM REPORT
078
082
079
085
GOOD
M
1600 UT

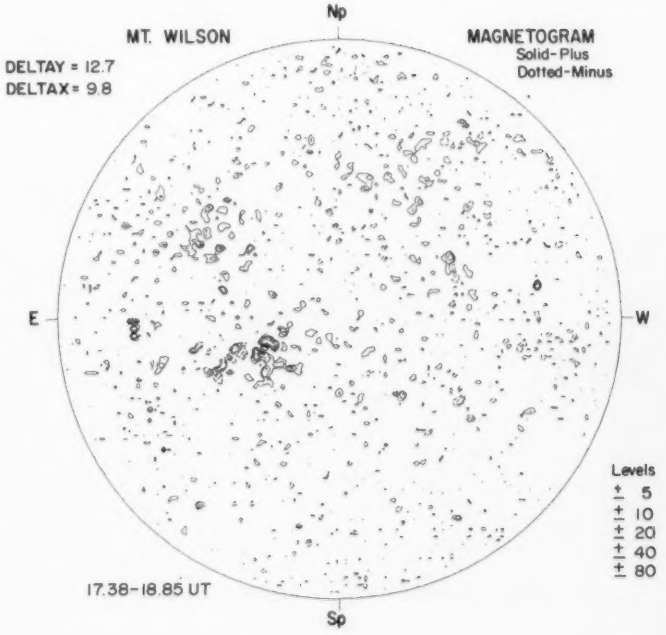

NELC LA POSTA
2.0 CM
Np
E
W
Sp
1906 UT
Ant. Temp. Unit 100°K
NELC LA POSTA
8.6 MM
1721 UT
Ant. Temp. Unit 100°K

FEBRUARY 12, 1976 (P = -16.11, B_0 = -6.67, L_0 = 315.59)



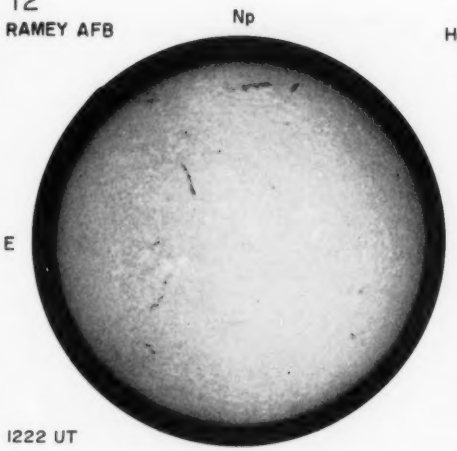






12

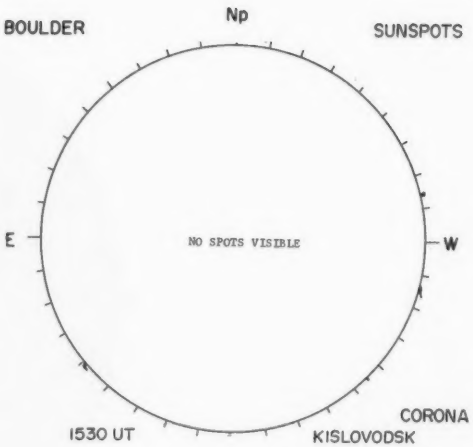
RAMEY AFB



1222 UT

Hα

BOULDER



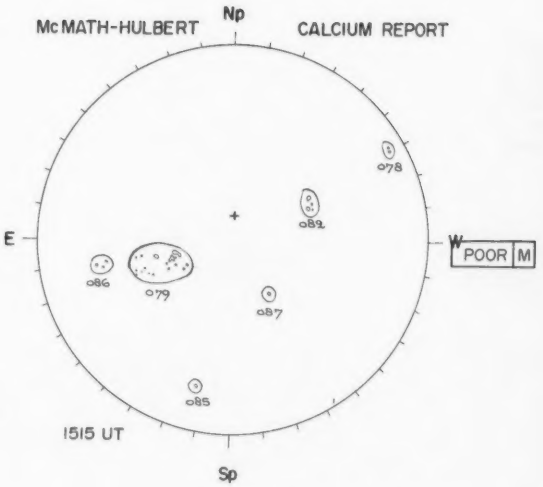
1530 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



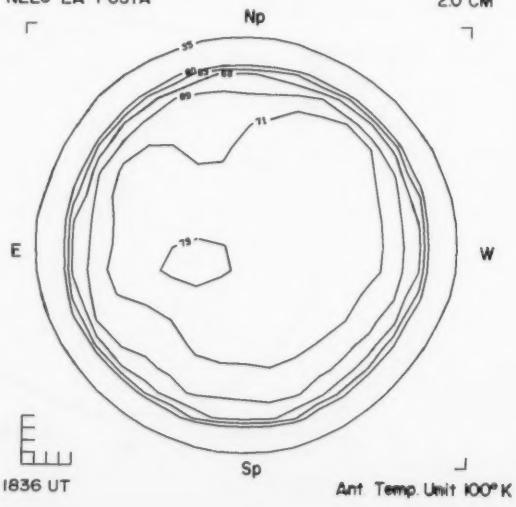
1515 UT

CALCIUM REPORT

POOR | M

NELC LA POSTA

2.0 CM

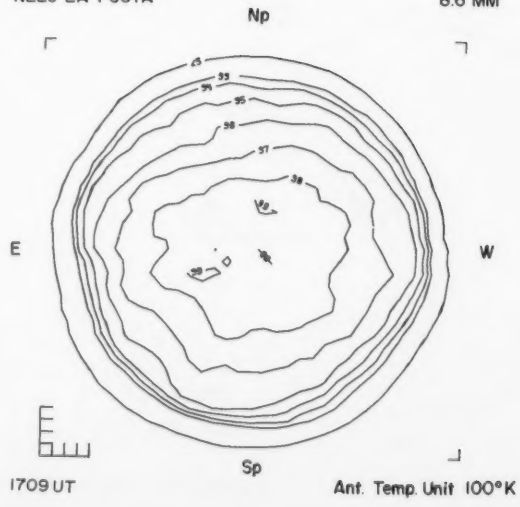


1836 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

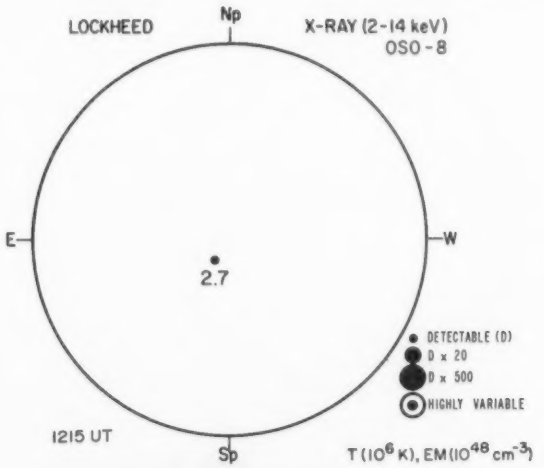
8.6 MM

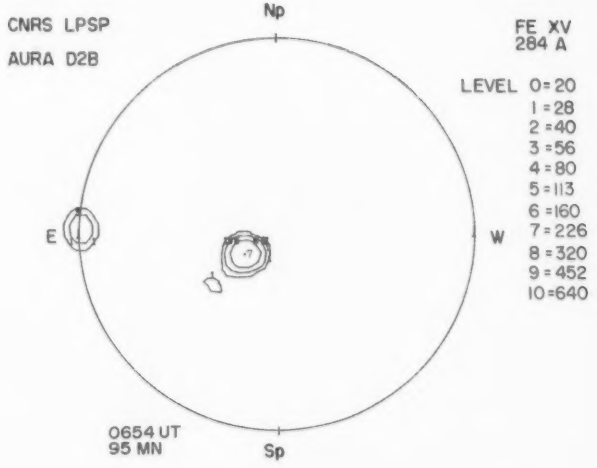


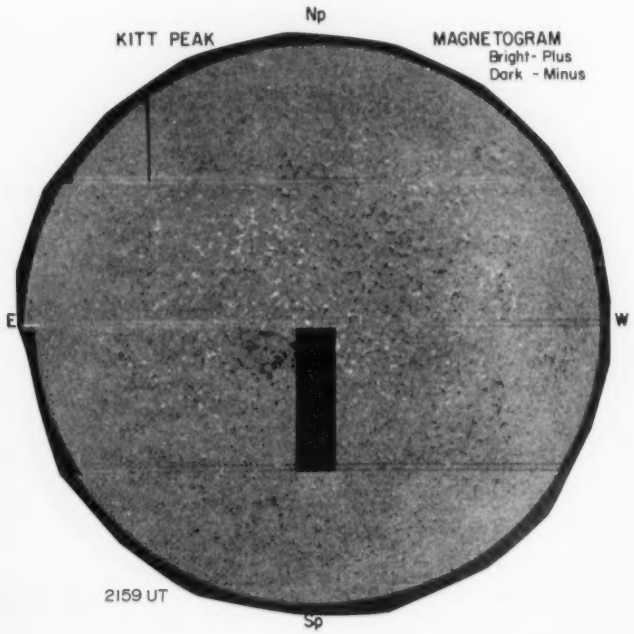
1709 UT

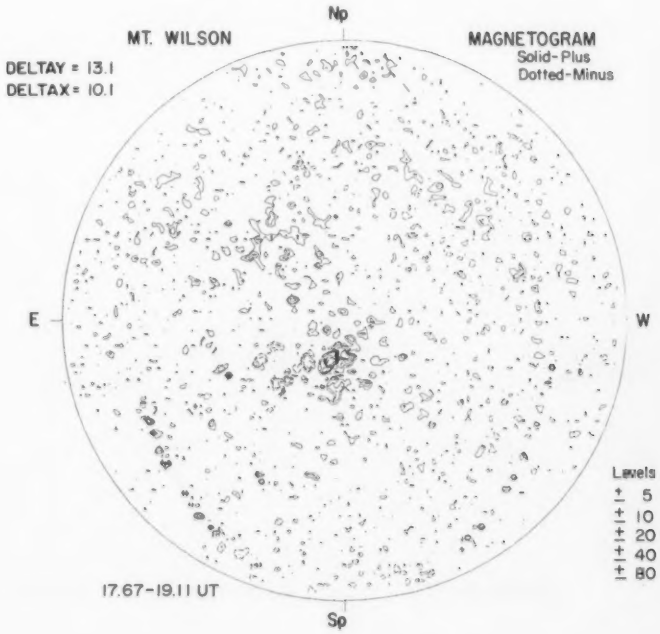
Ant. Temp. Unit 100° K

FEBRUARY 13, 1976 (P =-16.46, B_o =-6.72, L_o =302.42)



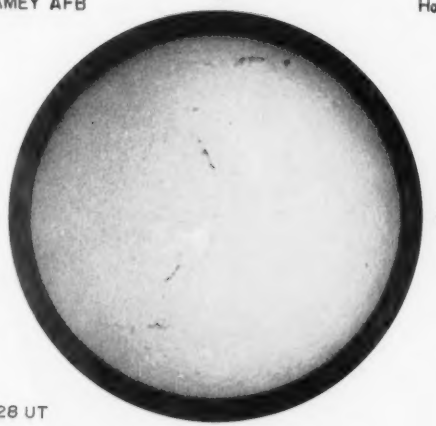






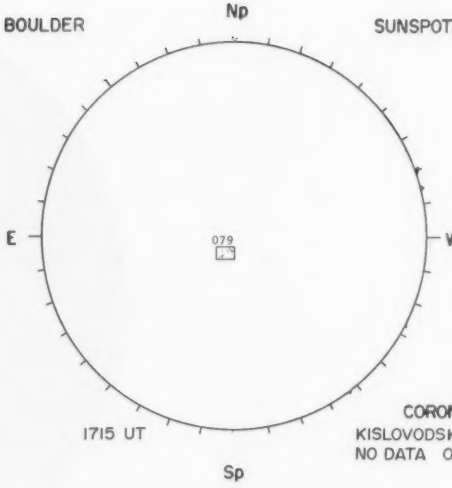
13

RAMEY AFB



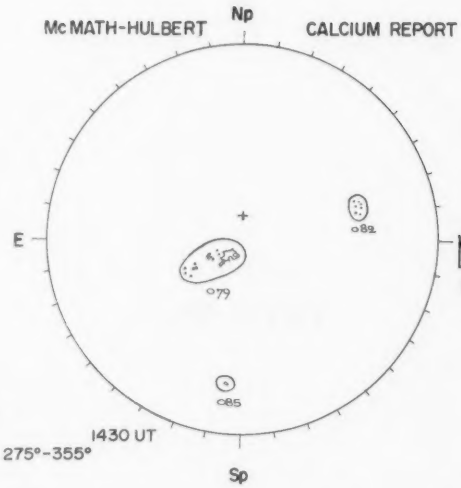
1228 UT

Hα BOULDER



1715 UT

SUNSPOTS



1430 UT

McMATH-HULBERT

CALCIUM REPORT

POOR M

79 0700 2.5

CORONA

KISLOVODSK

NO DATA 0° 275°-355°

NELC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

Sp

----UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

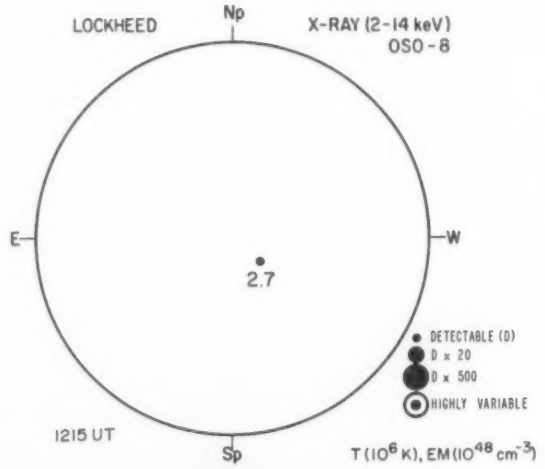
E EQUIPMENT W

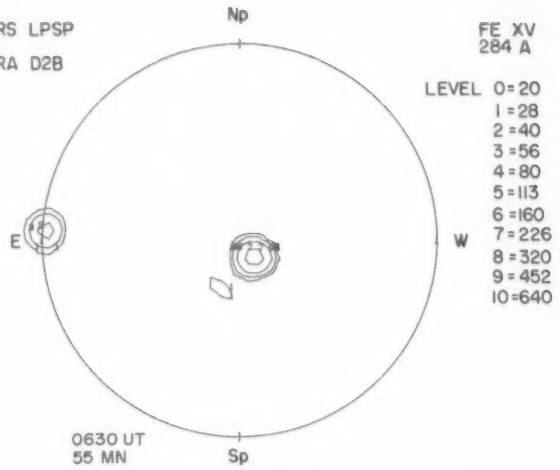
Sp

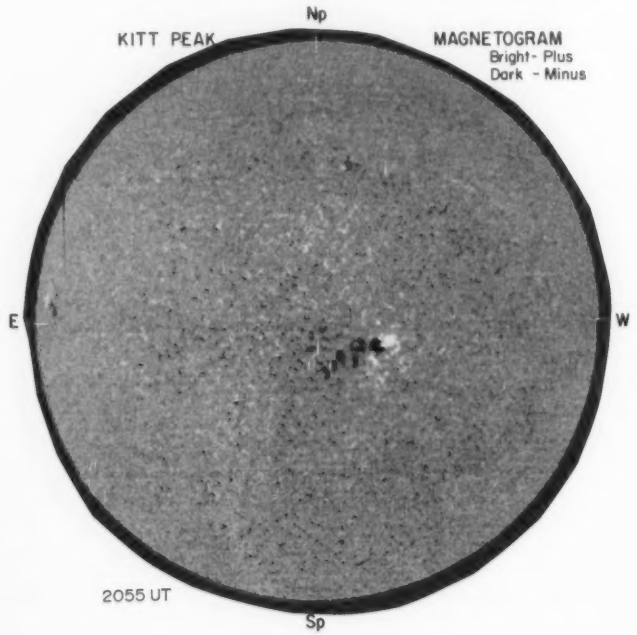
----UT

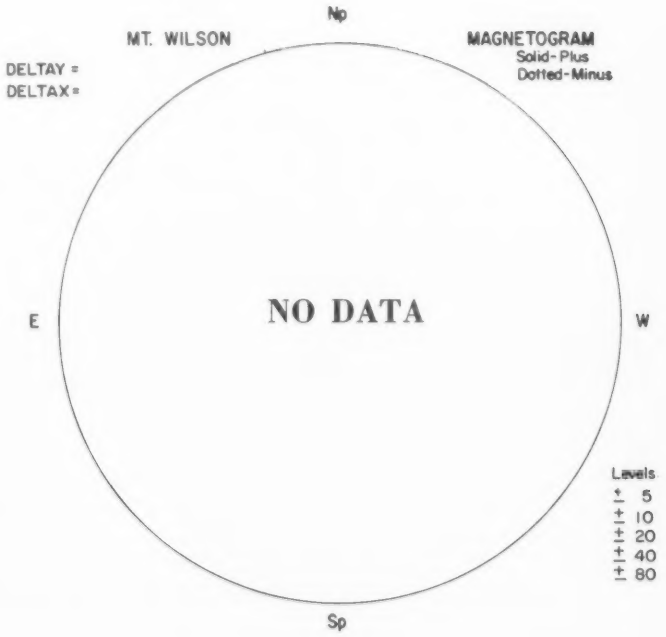
Ant. Temp. Unit 100°K

FEBRUARY 14, 1976 (P =-16.81, B_o =-6.77, L_o =289.25)



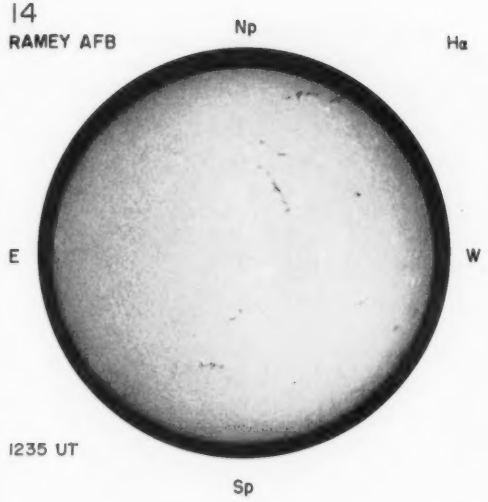






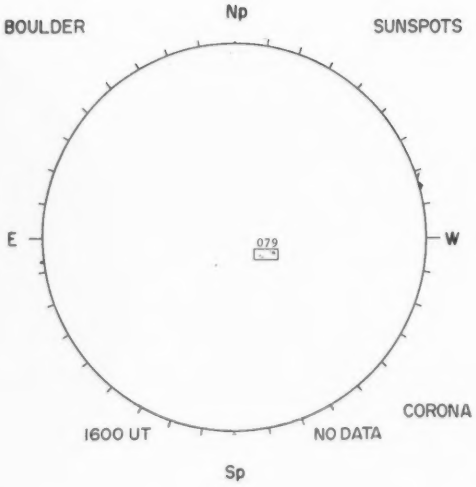
14

RAMEY AFB



1235 UT

Hα BOULDER



1600 UT

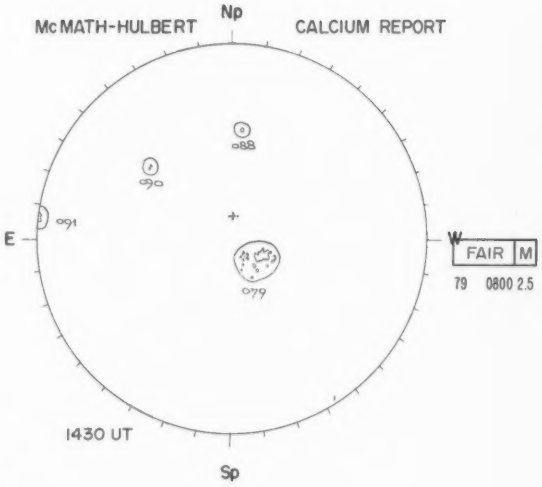
SUNSPOTS

CORONA

NO DATA

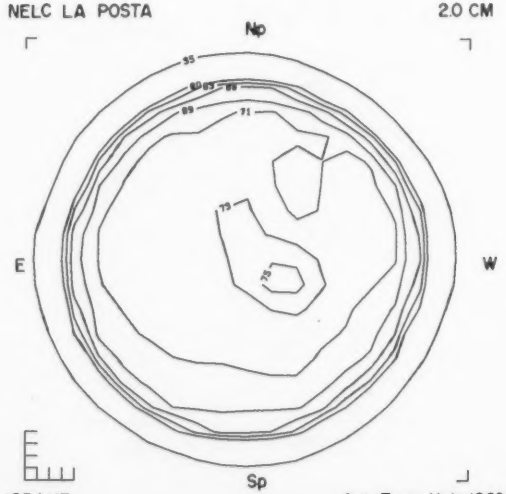
McMATH-HULBERT

CALCIUM REPORT



1430 UT

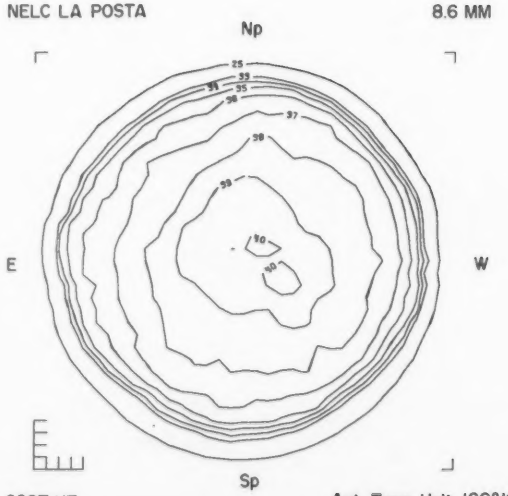
NELC LA POSTA 2.0 CM



1854 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

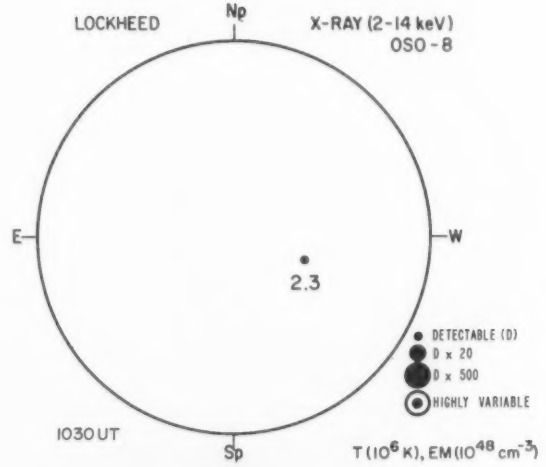


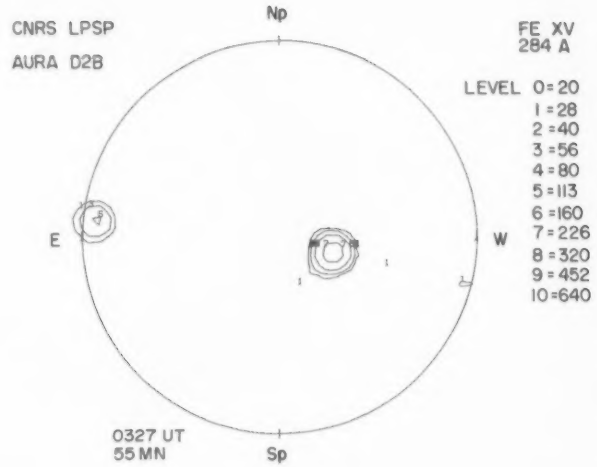
2027 UT

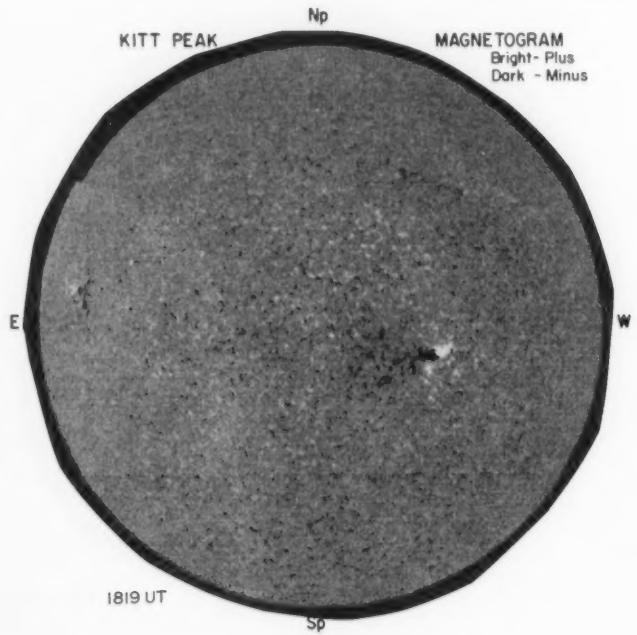
Ant. Temp. Unit 100°K

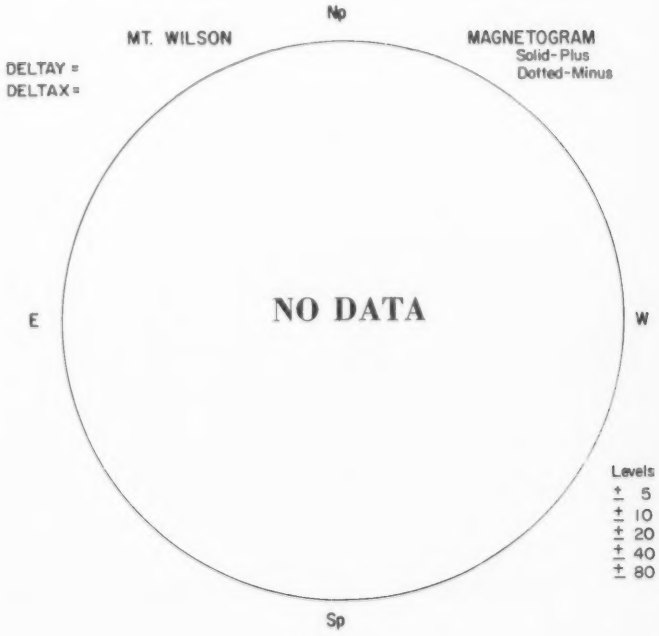
63
Feb 76

FEBRUARY 15, 1976 (P =-17.16, B_o =-6.81, L_o =276.09)



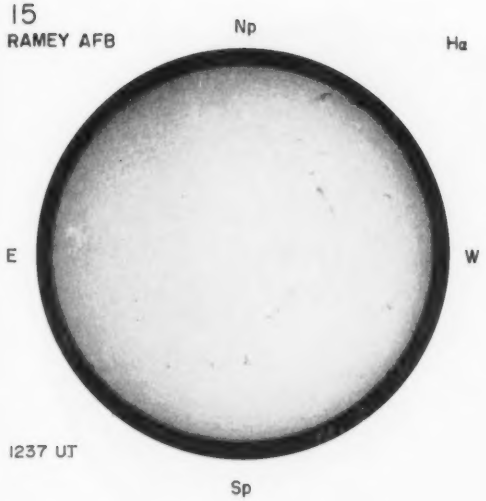






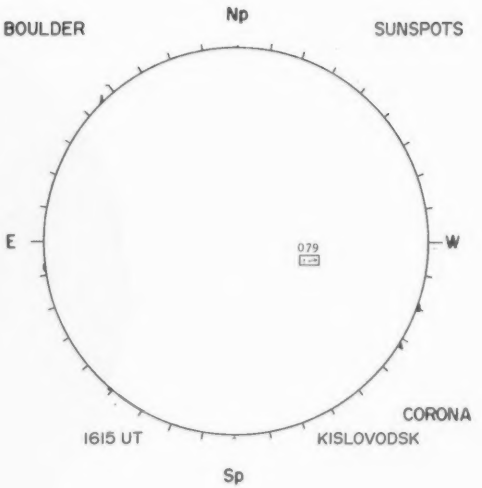
15

RAMEY AFB



1237 UT

Hα BOULDER



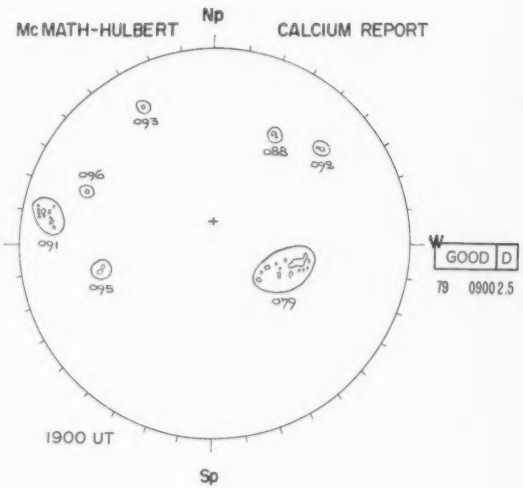
1615 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



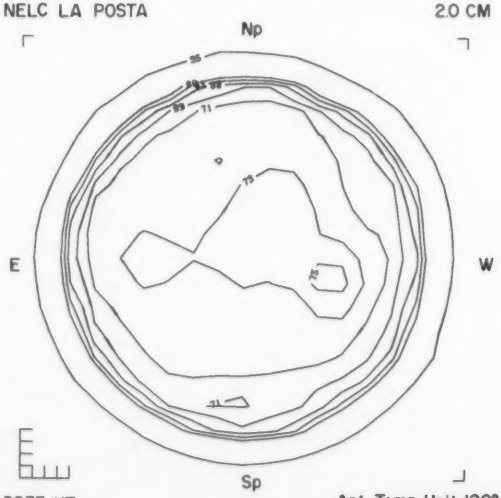
1900 UT

CALCIUM REPORT

GOOD D

79 090025

NELC LA POSTA 2.0 CM



2033 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

NO DATA

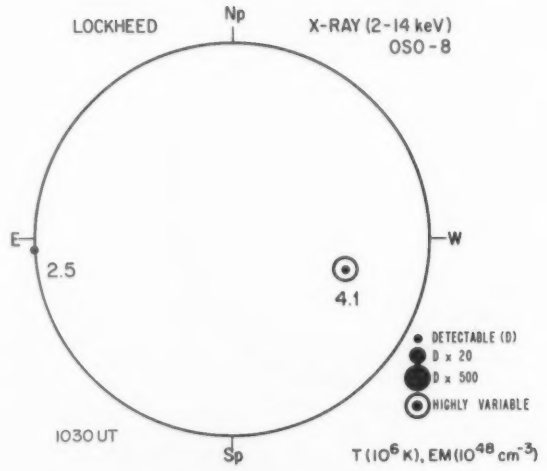
EQUIPMENT

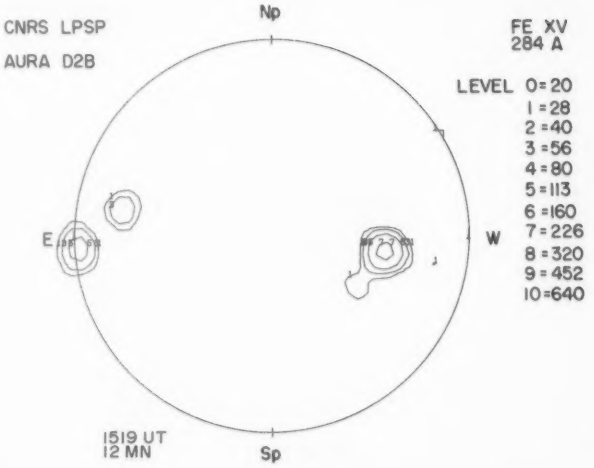
---- UT

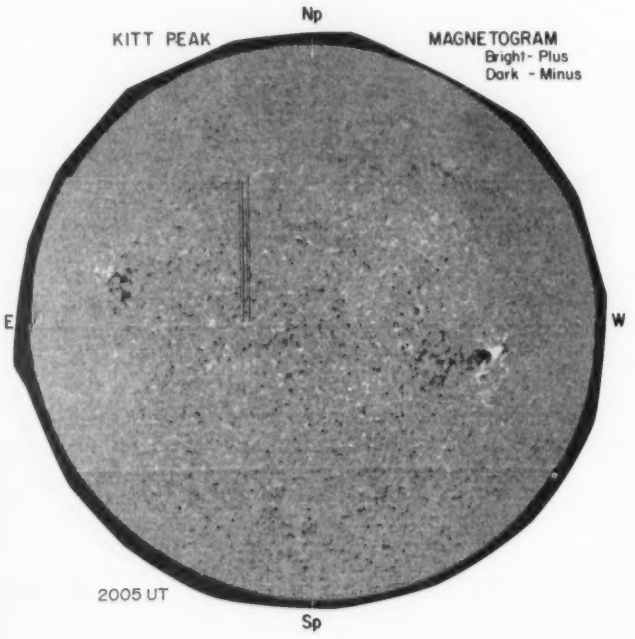
Ant. Temp. Unit 100°K

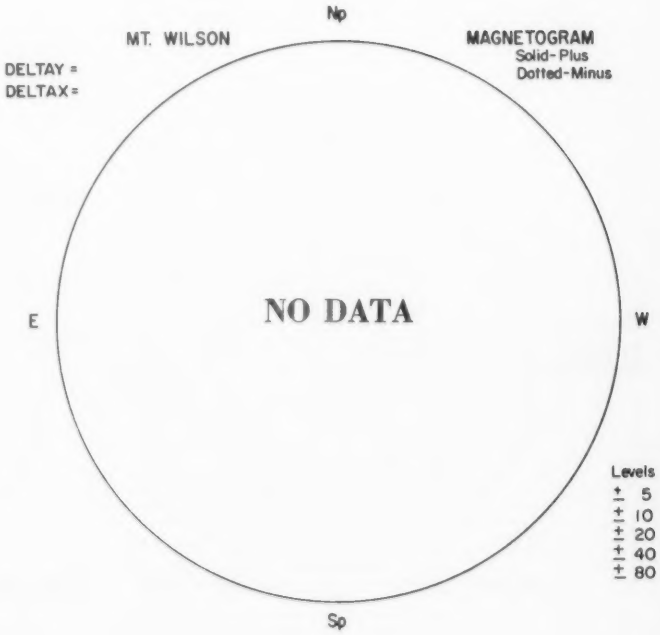
65
Feb 76

FEBRUARY 16, 1976 (P =-1749, B_o =-6.85, L_o =262.92)



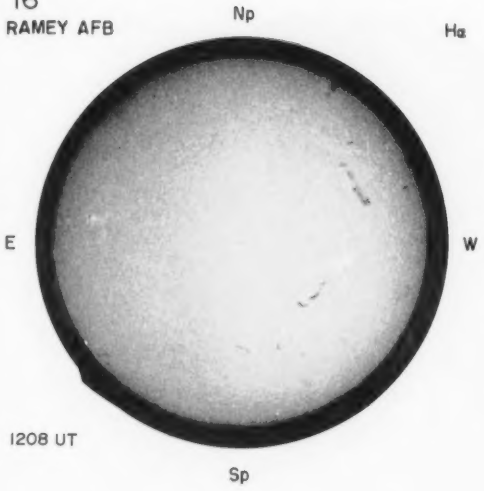






16

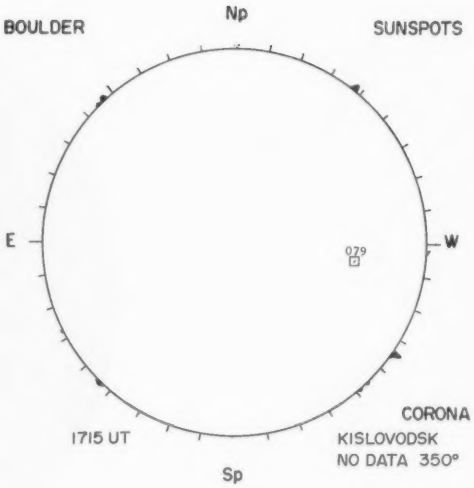
RAMEY AFB



1208 UT

Hα

BOULDER



1715 UT

SUNSPOTS

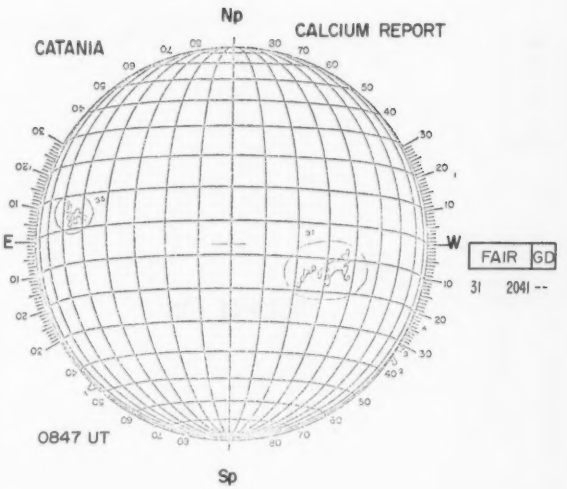
CORONA

KISLOVODSK

NO DATA 350°

CATANIA

CALCIUM REPORT

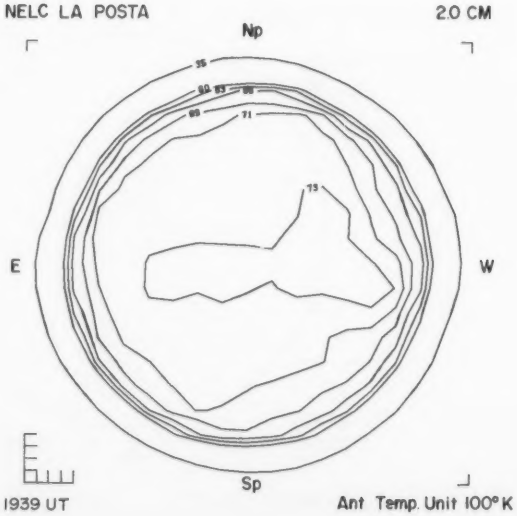


0847 UT

FAIR	GD
31	2041 --

NELC LA POSTA

2.0 CM

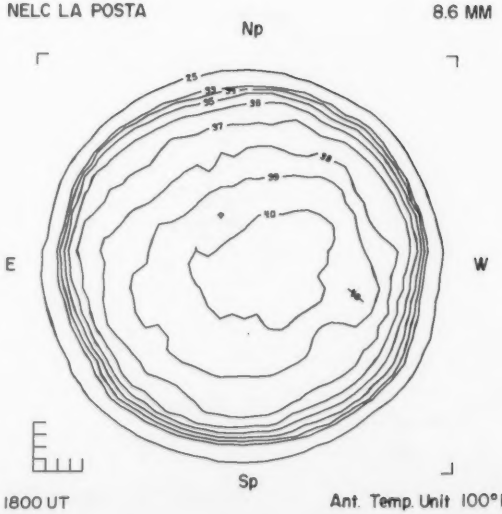


1939 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

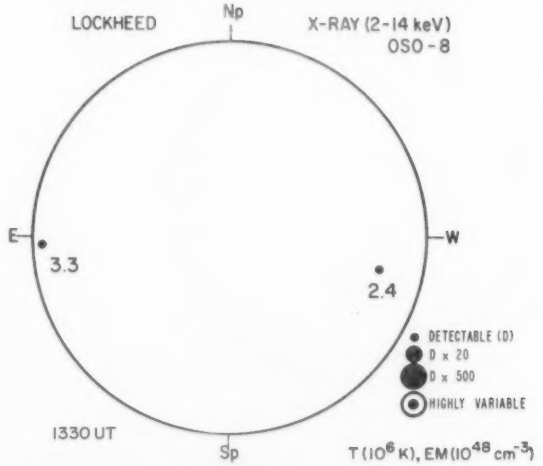


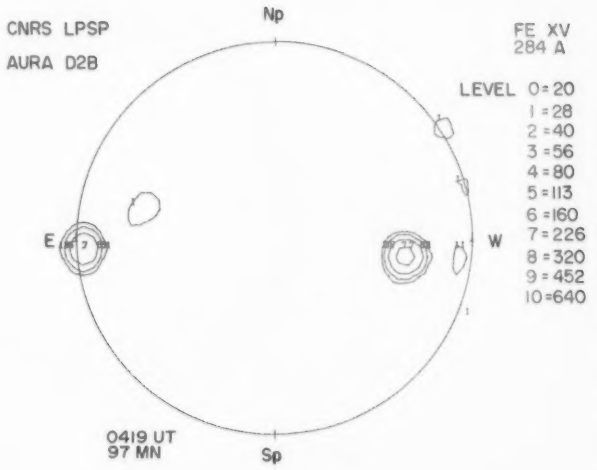
1800 UT

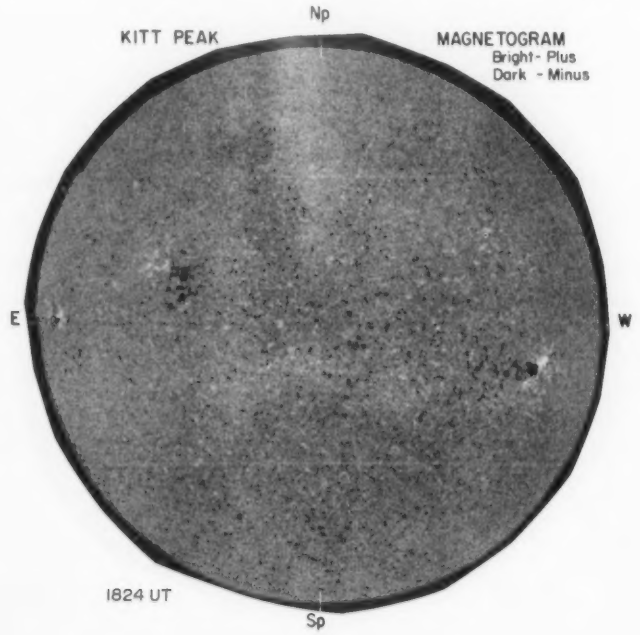
Ant. Temp. Unit 100°K

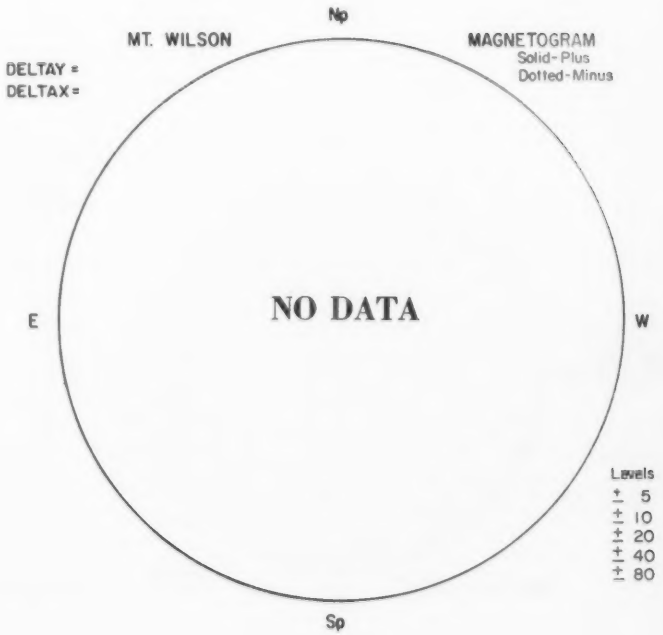
67
Feb 76

FEBRUARY 17, 1976 (P =-17.83, B_o =-6.89, L_o =249.75)



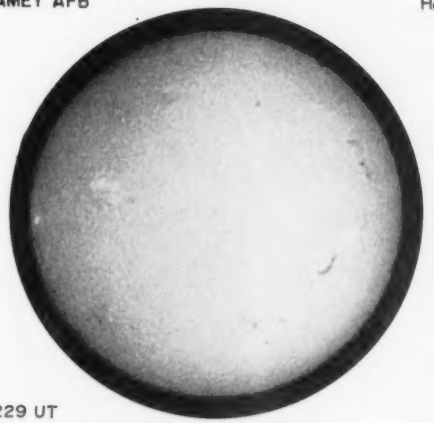






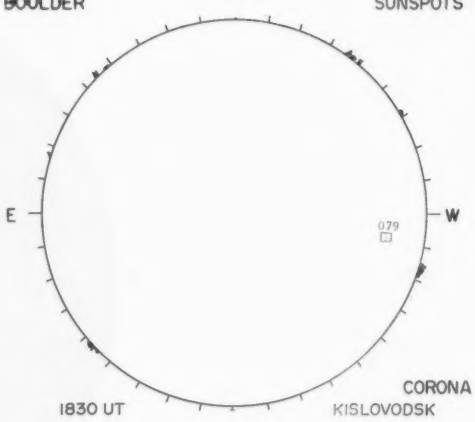
17

RAMEY AFB Hα



1229 UT

BOULDER SUNSPOTS

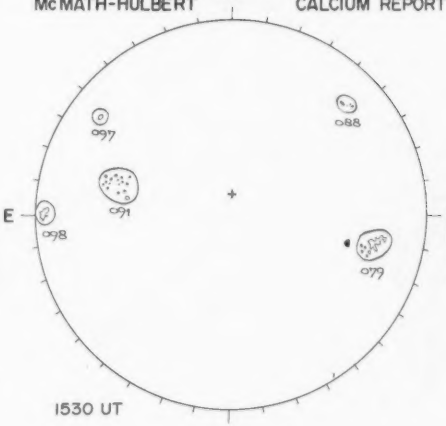


1830 UT

CORONA

KISLOVODSK

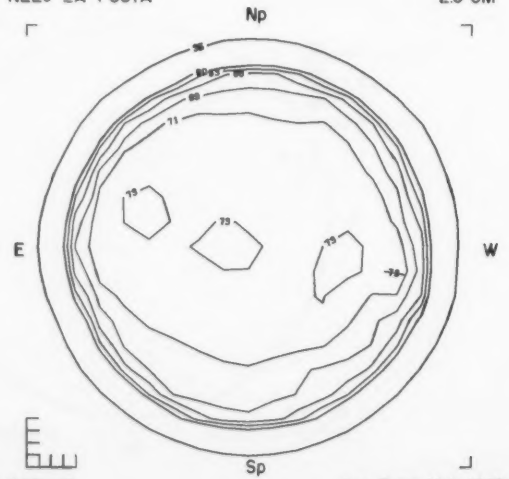
McMATH-HULBERT CALCIUM REPORT



1530 UT

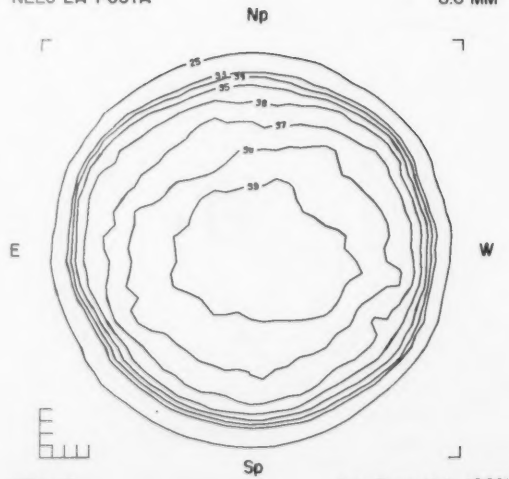
	GOOD	M
79	0800	2.5
98	0900	2.5

NELC LA POSTA 2.0 CM



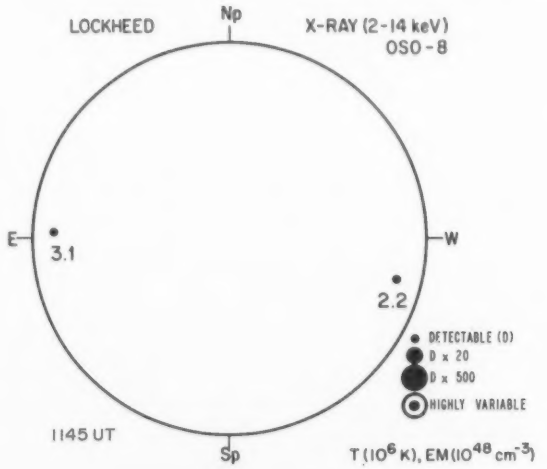
2001 UT Ant. Temp. Unit 100°K

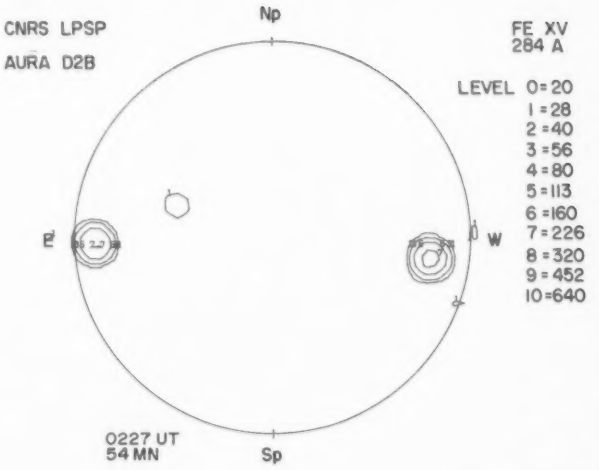
NELC LA POSTA 8.6 MM

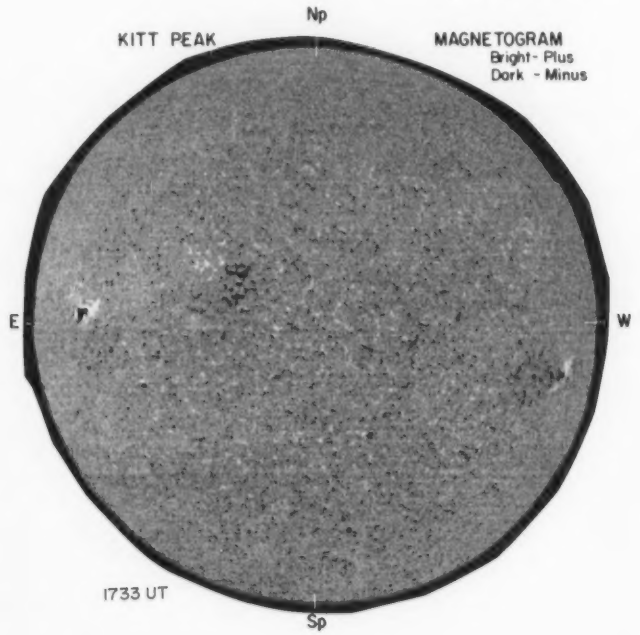


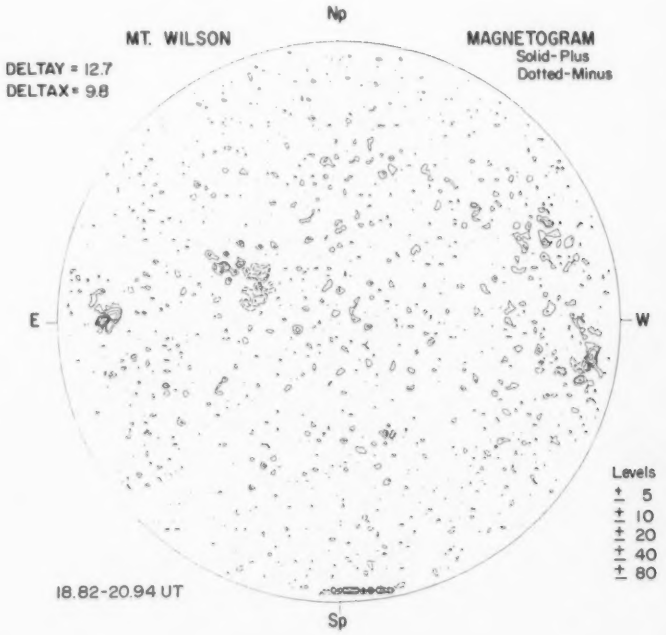
1834 UT Ant. Temp. Unit 100°K

FEBRUARY 18, 1976 (P =-18.15, B_o =-6.93, L_o =236.58)



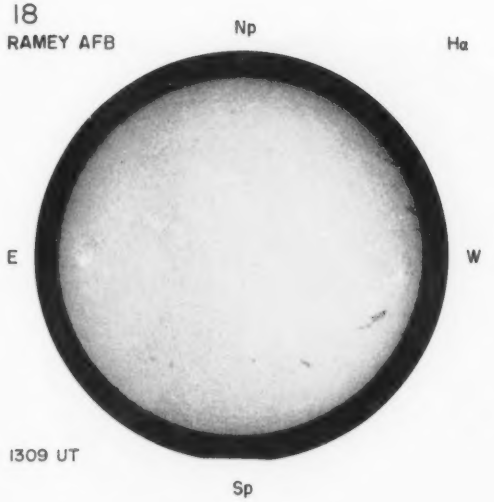






18

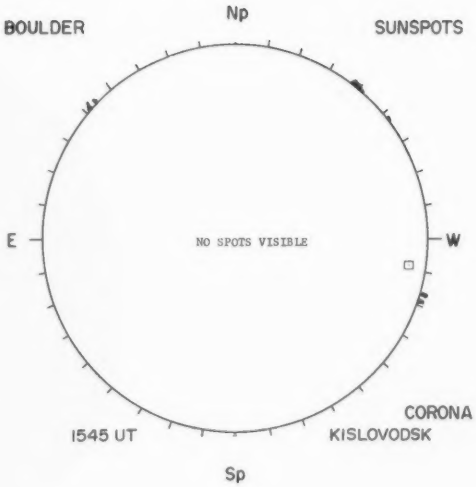
RAMEY AFB



1309 UT

Hα

BOULDER



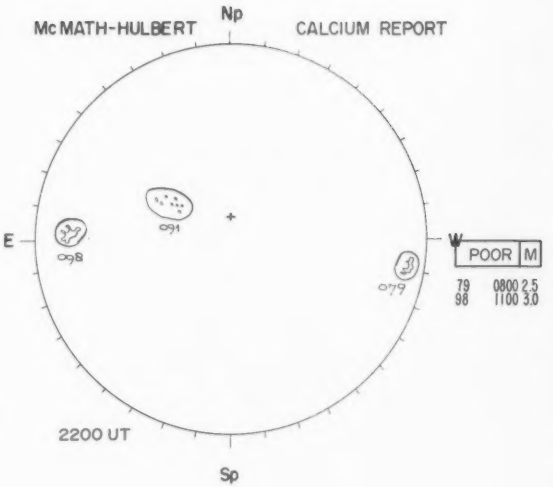
1545 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



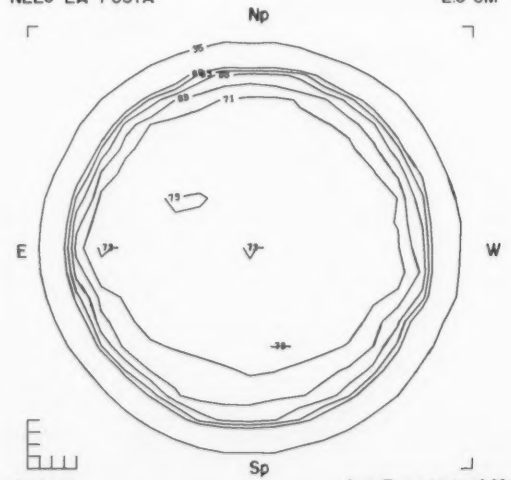
2200 UT

CALCIUM REPORT

	POOR	M
79	0800	2.5
98	1100	3.0

NELC LA POSTA

2.0 CM

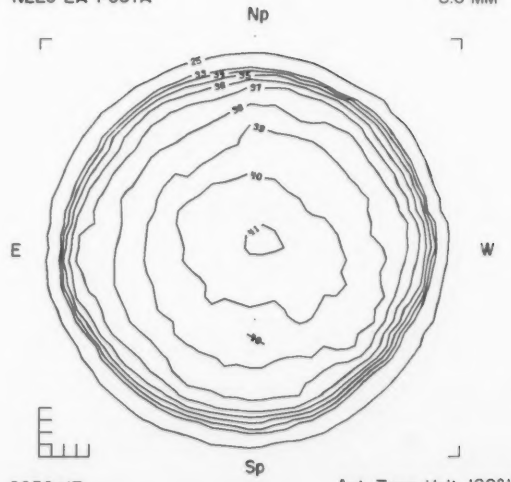


1948 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

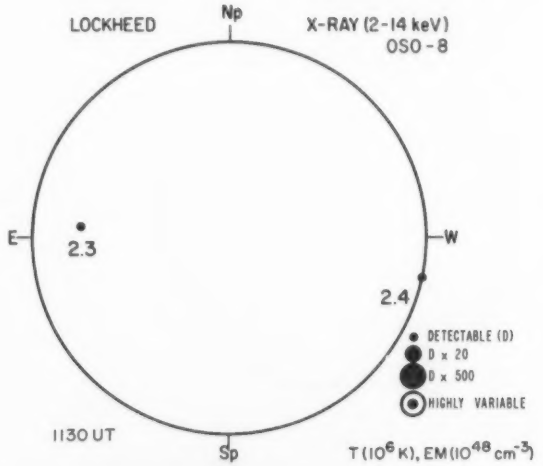


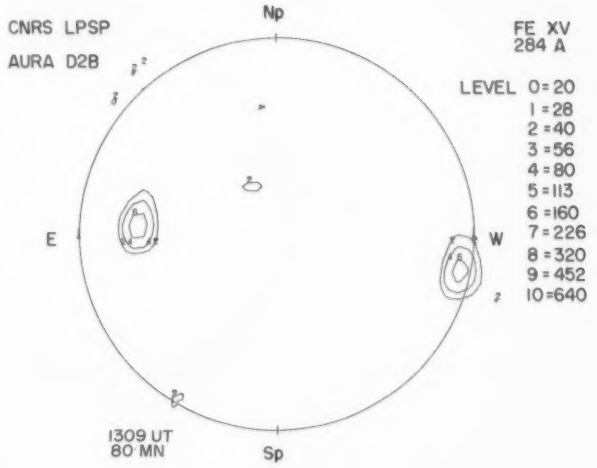
2050 UT

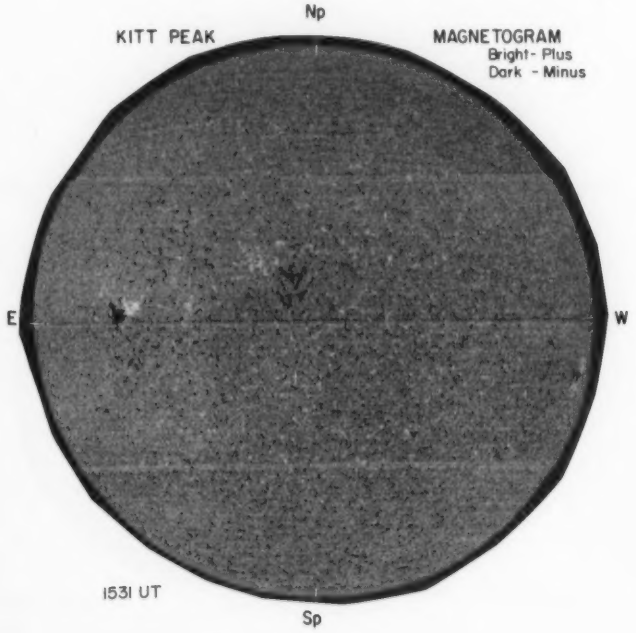
Ant. Temp. Unit 100°K

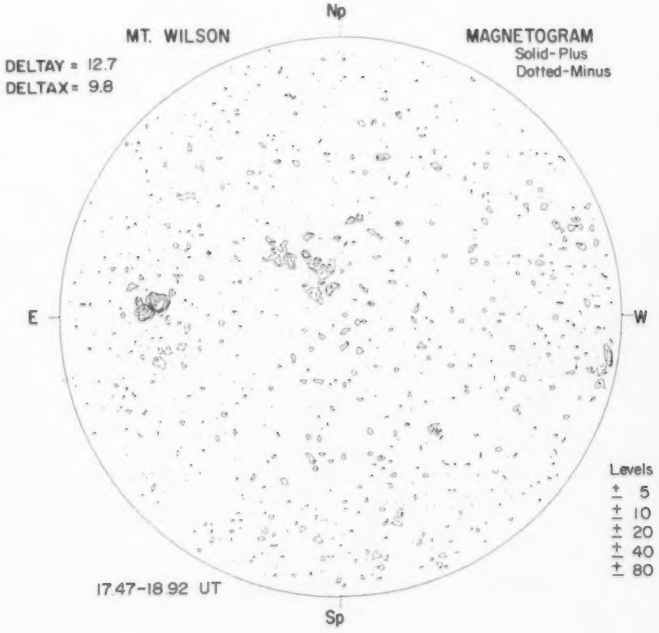
71
Feb 76

FEBRUARY 19, 1976 (P =-18.48, B_o =-6.97, L_o =223.41)



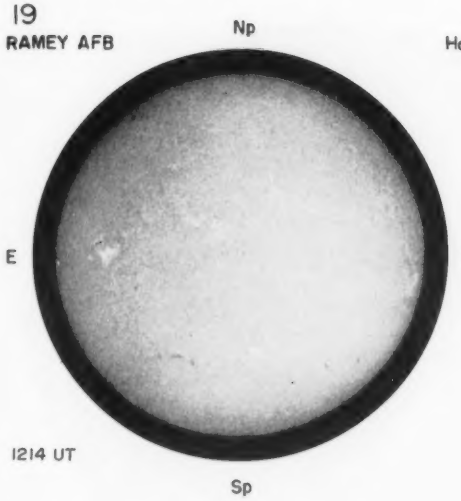






19

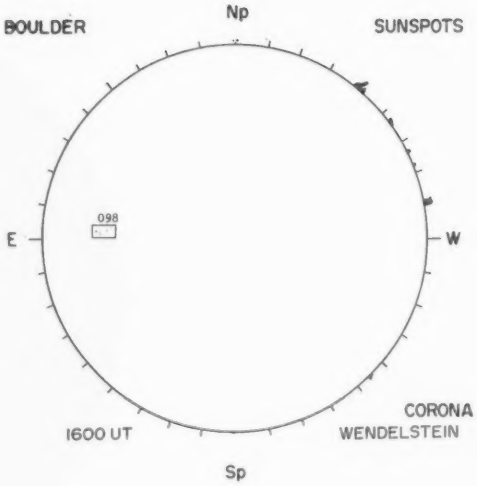
RAMEY AFB



1214 UT

Hα

BOULDER



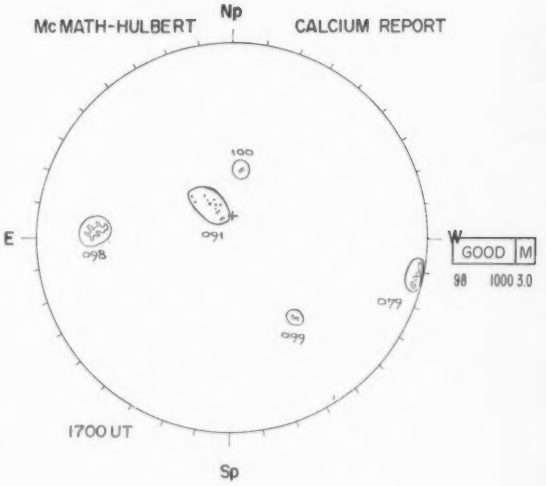
1600 UT

SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT



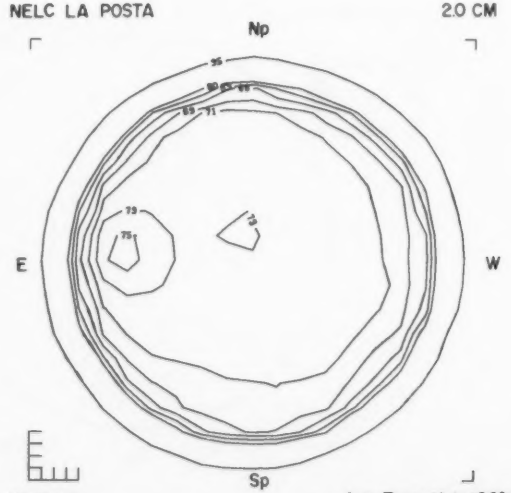
1700 UT

CALCIUM REPORT

	GOOD	M
98	1000	3.0

NELC LA POSTA

2.0 CM

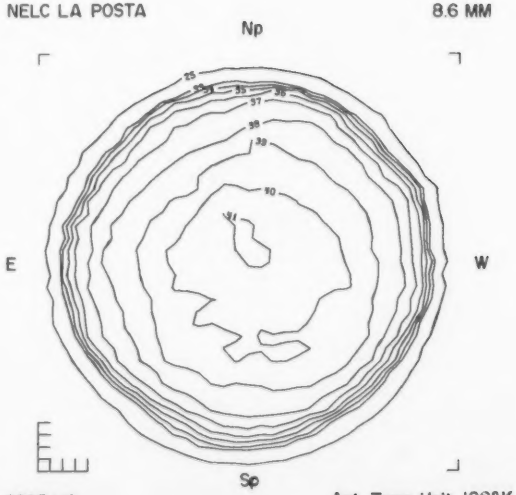


2158 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

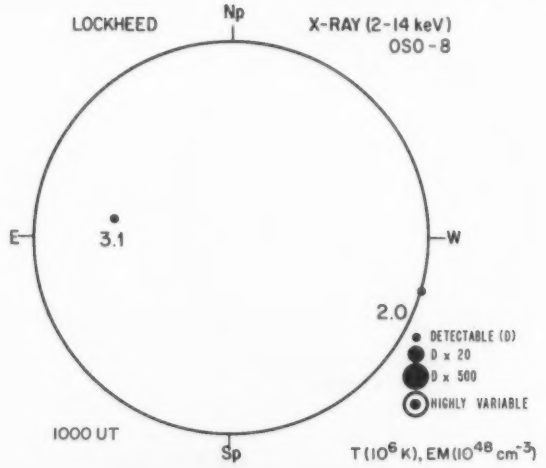


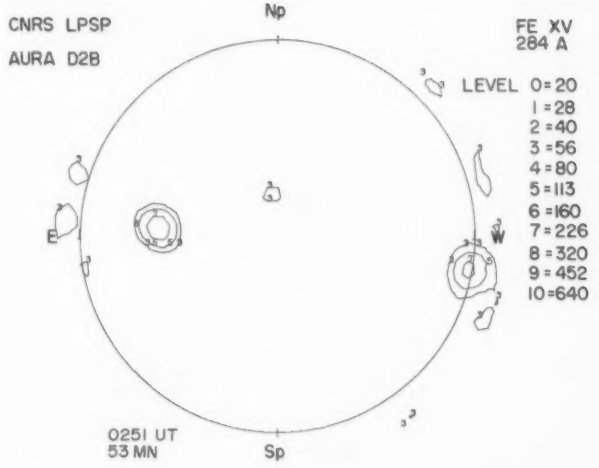
2023 UT

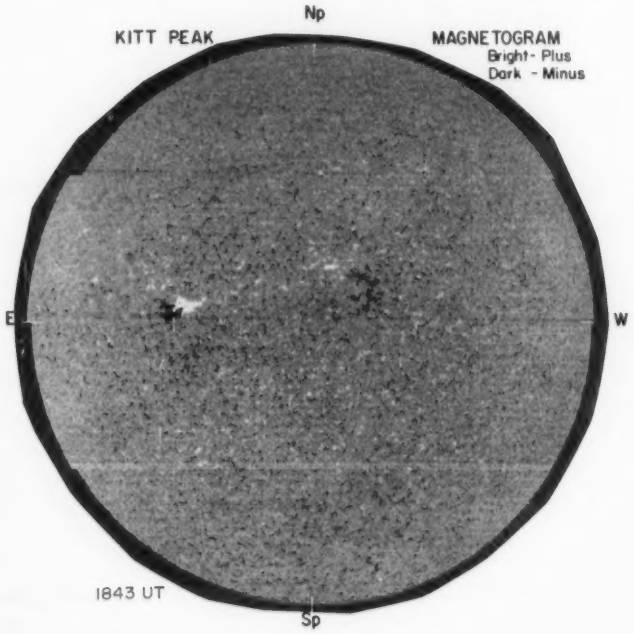
Ant. Temp. Unit 100°K

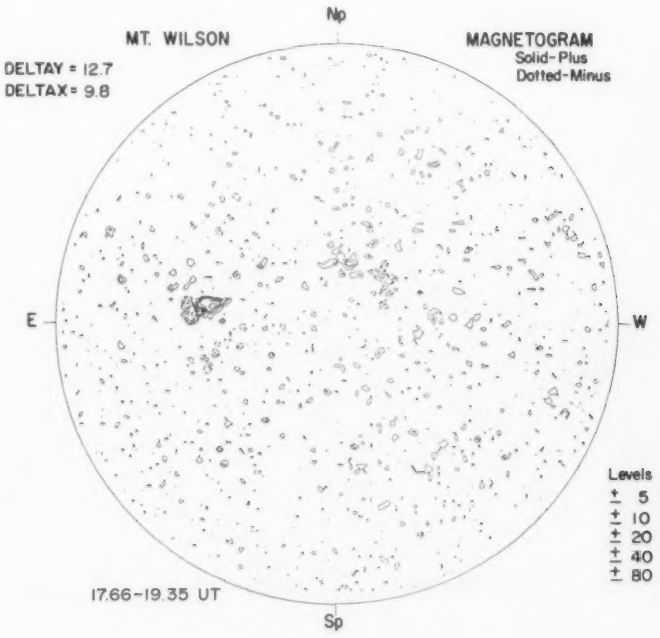
73
Feb 76

FEBRUARY 20, 1976 (P =-18.79, B_o =-7.00, L_o =210.24)



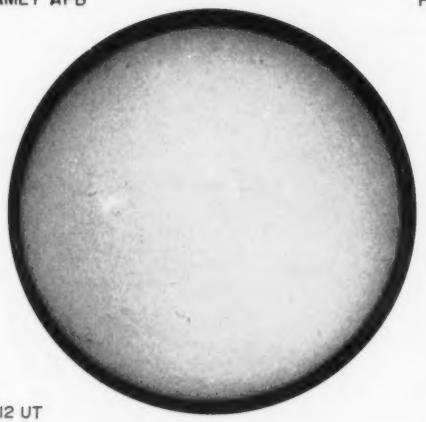






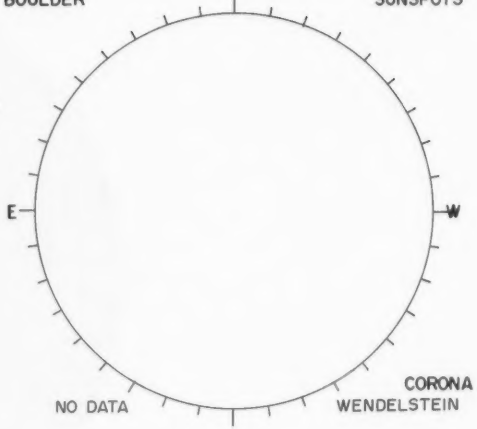
20

RAMEY AFB



1212 UT

Hα BOULDER



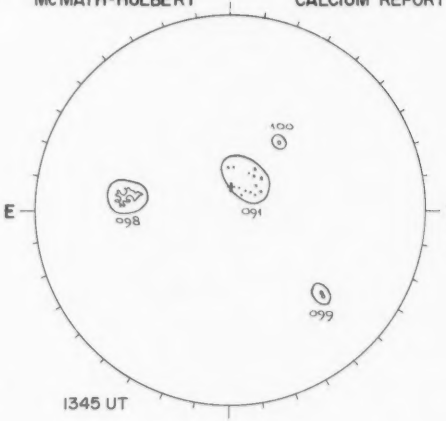
NO DATA

SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT



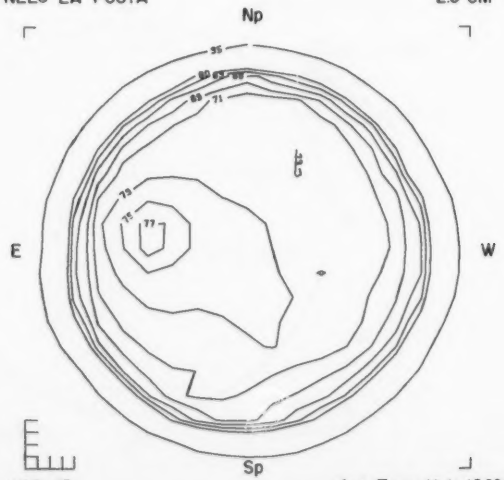
1345 UT

CALCIUM REPORT

GOOD	D

98 1000 25

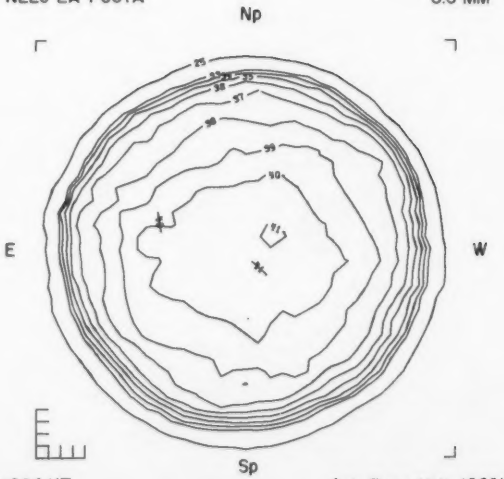
NELC LA POSTA 2.0 CM



1955 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

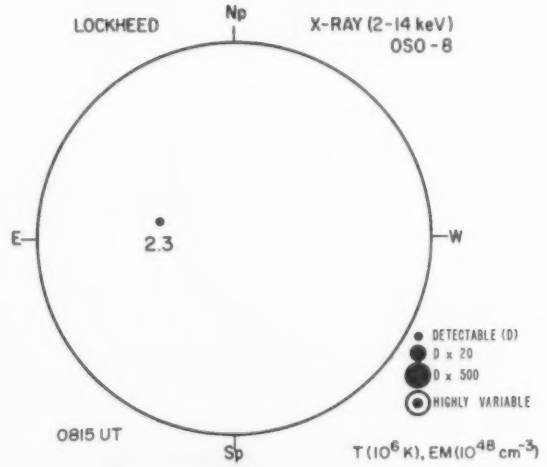


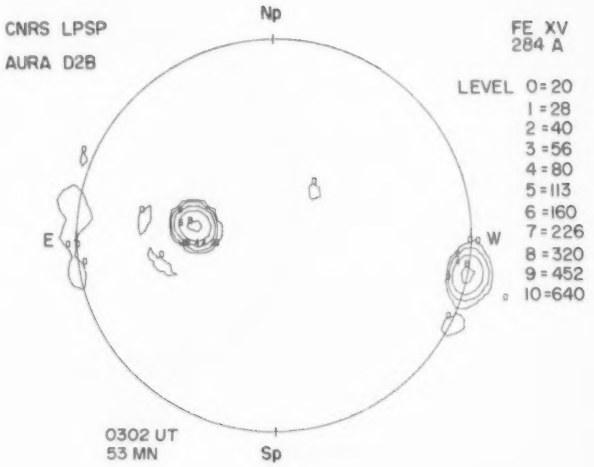
1824 UT

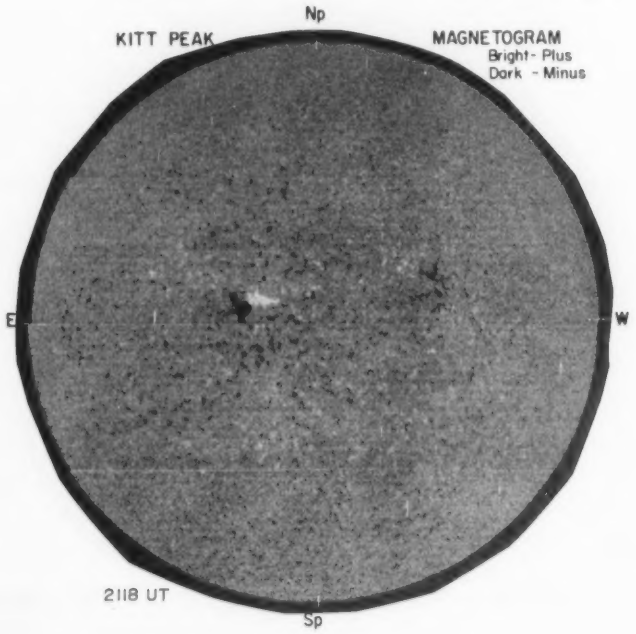
Ant. Temp. Unit 100°K

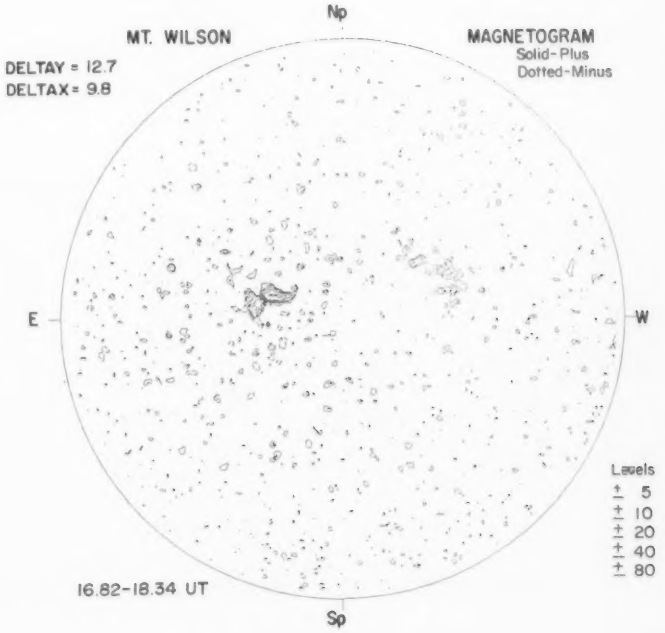
75
Feb 76

FEBRUARY 21, 1976 (P =-19.10, B_0 =-7.04, L_0 =197.07)







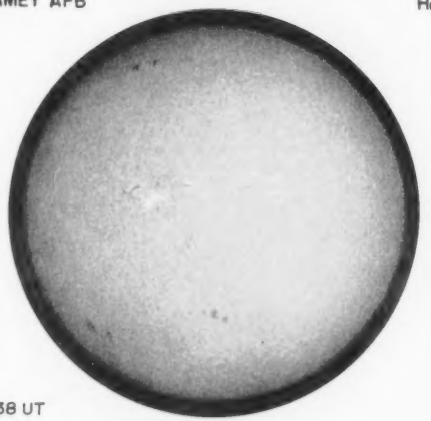


21

RAMEY AFB

Np

Hα



E

W

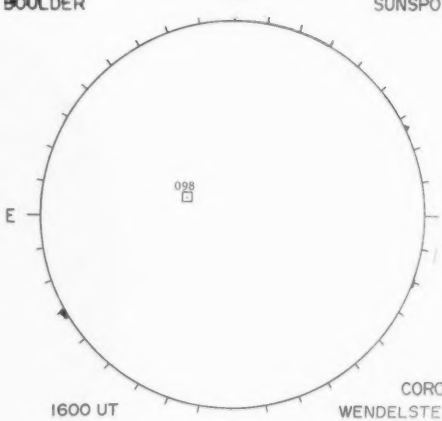
1138 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1600 UT

Sp

CORONA

WENDELSTEIN

McMATH-HULBERT

Np

CALCIUM REPORT

E

W

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E

CALIBRATION

W

Sp

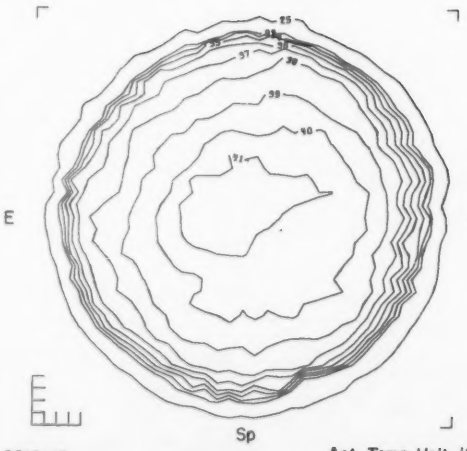
1920 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM



E

W

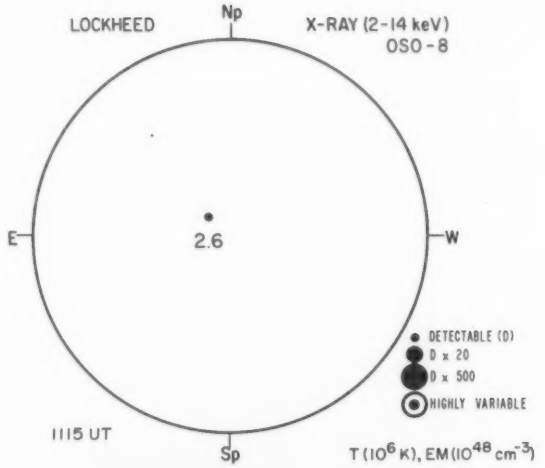
Sp

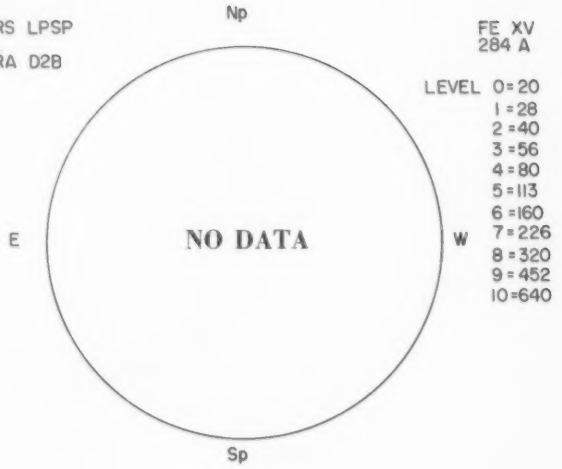
2012 UT

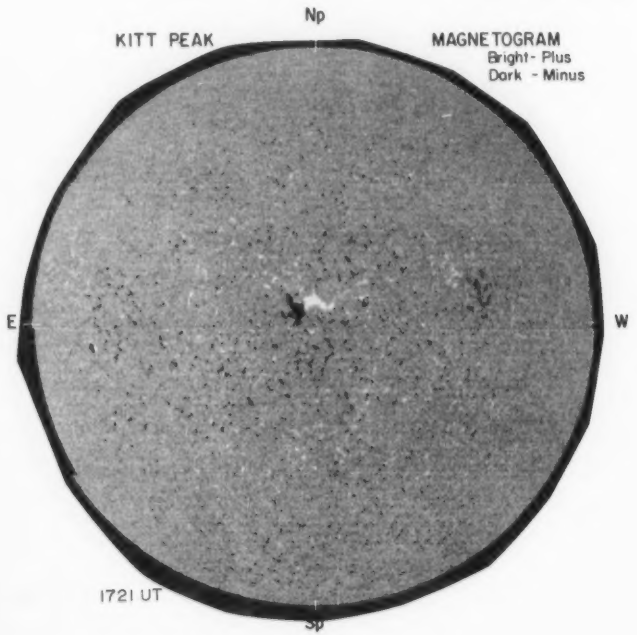
Ant. Temp. Unit 100°K

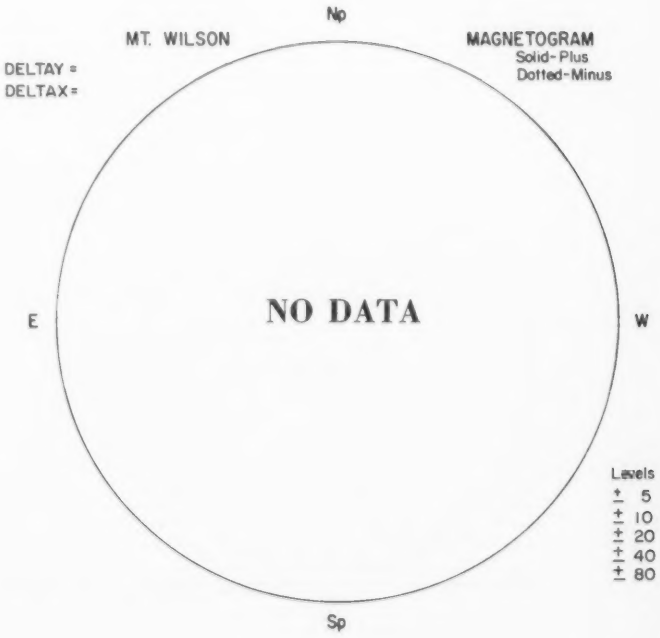
77
Feb 76

FEBRUARY 22, 1976 (P =-19.40, B_o =-7.06, L_o =183.90)



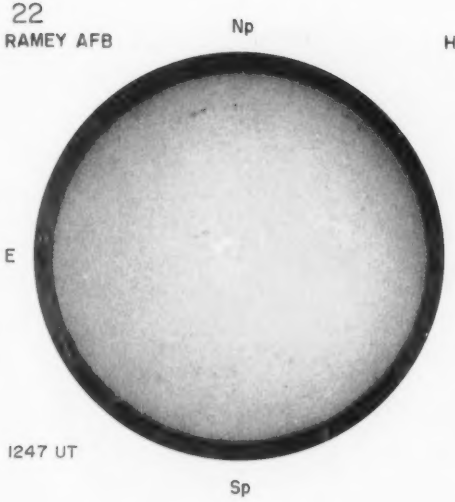






22

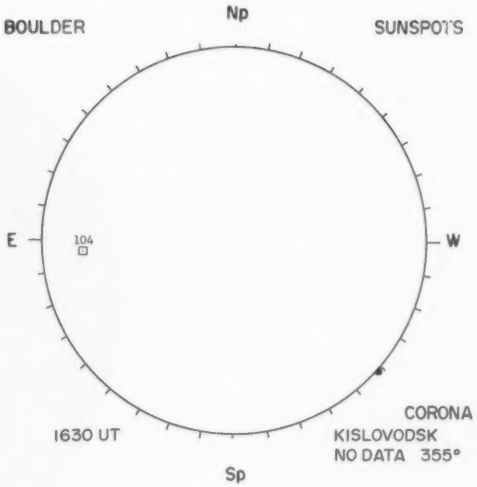
RAMEY AFB



1247 UT

Hα

BOULDER



1630 UT

SUNSPOTS

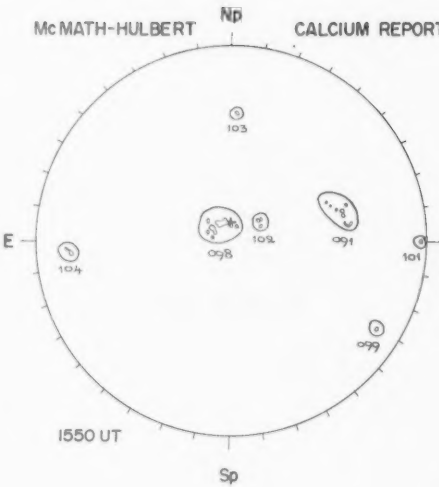
CORONA

KISLOVODSK

NO DATA 355°

McMATH-HULBERT

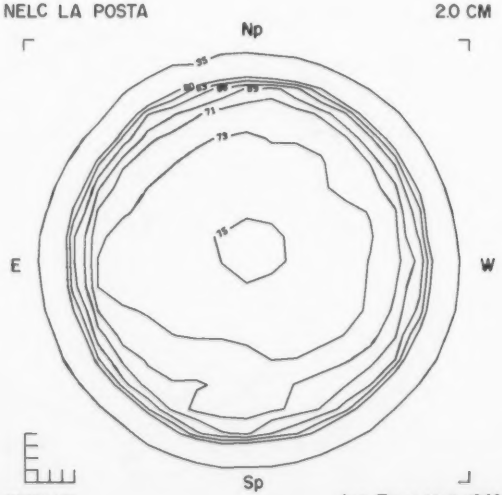
CALCIUM REPORT



1550 UT

NELC LA POSTA

2.0 CM

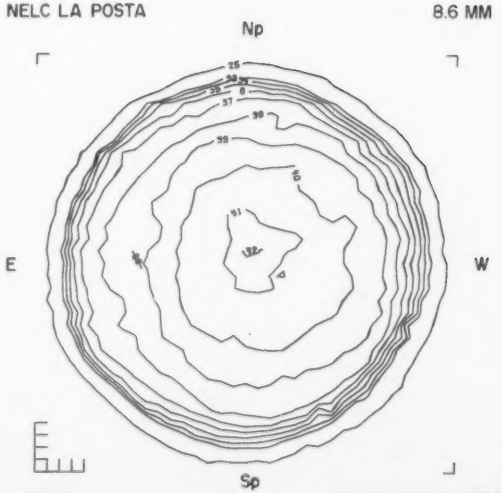


2027 UT

Ant Temp Unit 100°K

NELC LA POSTA

8.6 MM

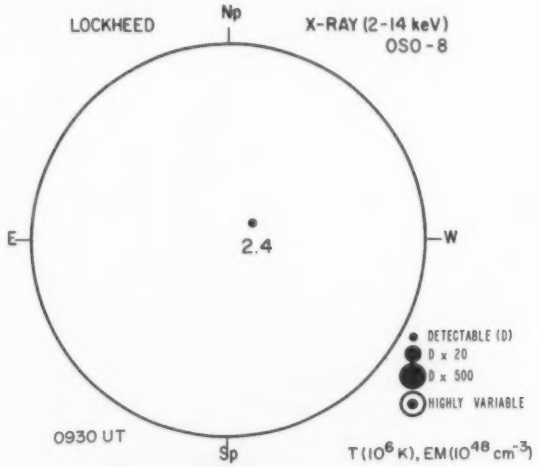


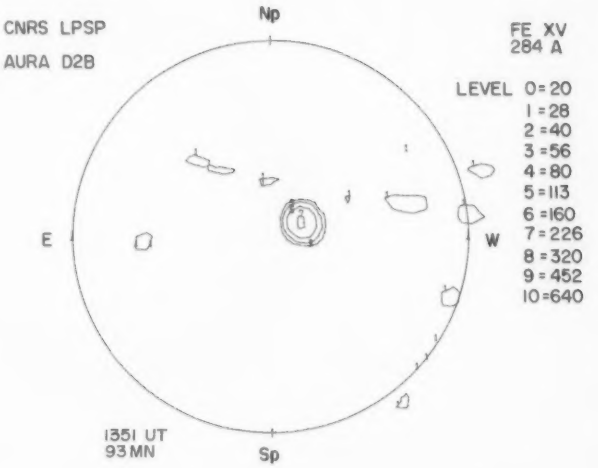
2127 UT

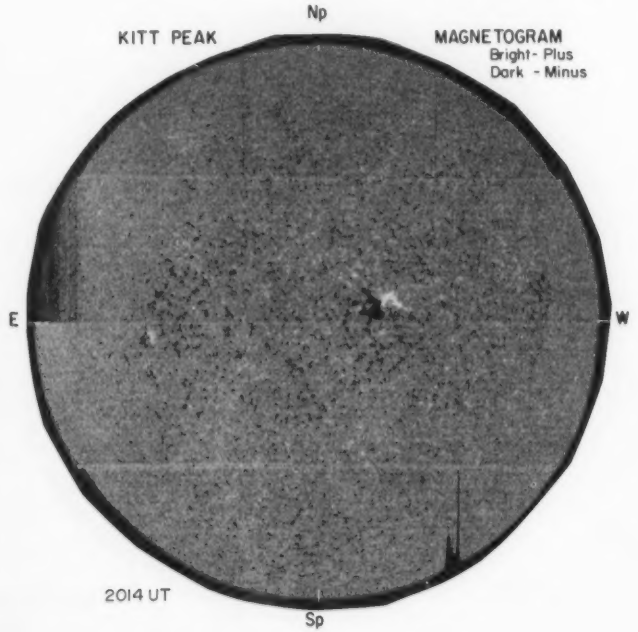
Ant. Temp Unit 100°K

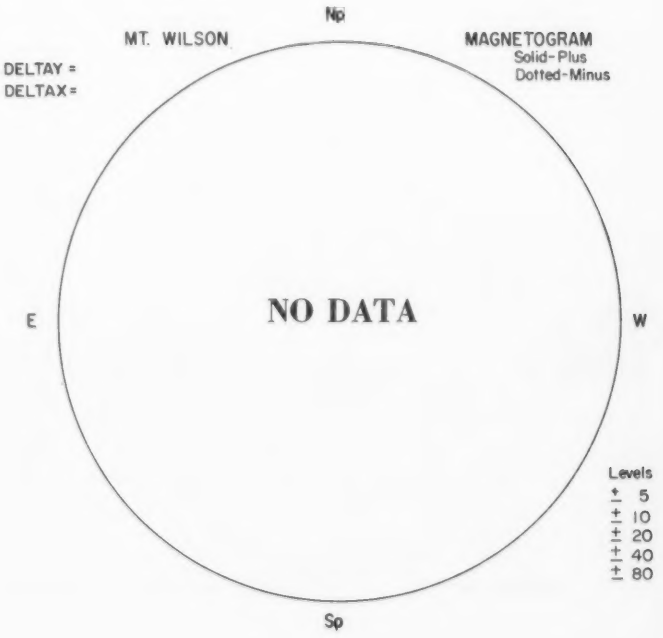
79
Feb 76

FEBRUARY 23, 1976 (P =-19.70, B_0 =-7.09, L_0 =170.73)



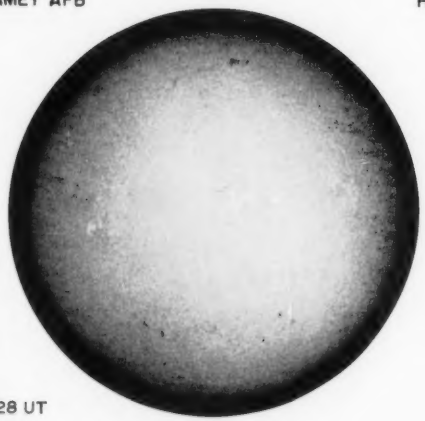






23

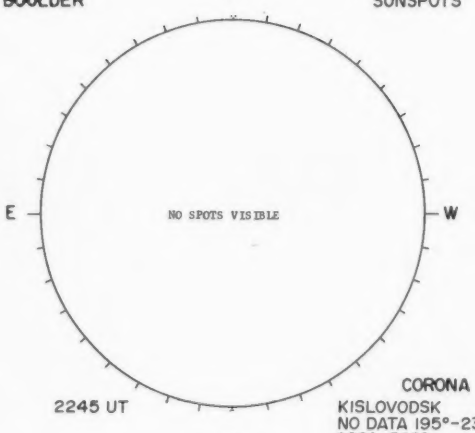
RAMEY AFB



1228 UT

Hα

BOULDER



2245 UT

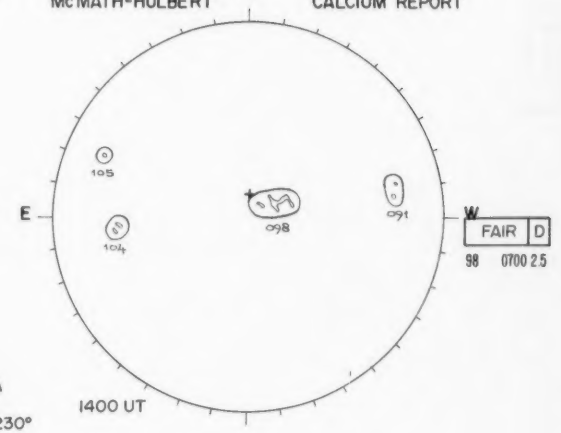
SUNSPOTS

CORONA

KISLOVODSK
NO DATA 195°-230°
280°-320°

McMATH-HULBERT

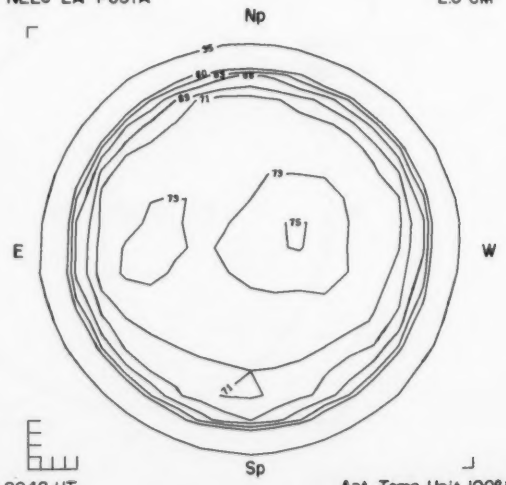
CALCIUM REPORT



1400 UT

NELC LA POSTA

2.0 CM



2048 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

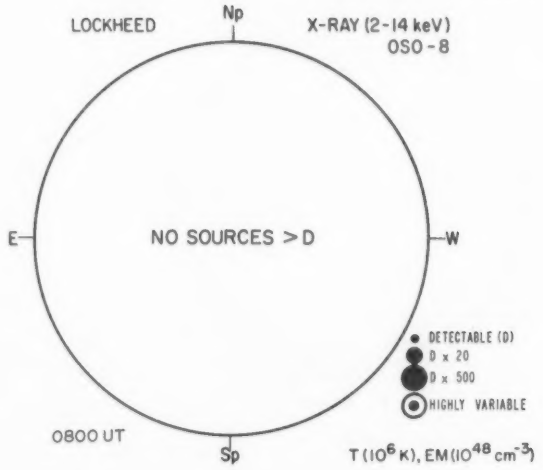
NO DATA

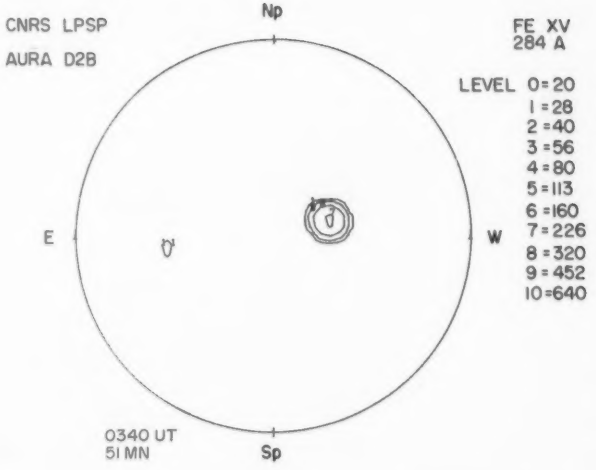
WEATHER

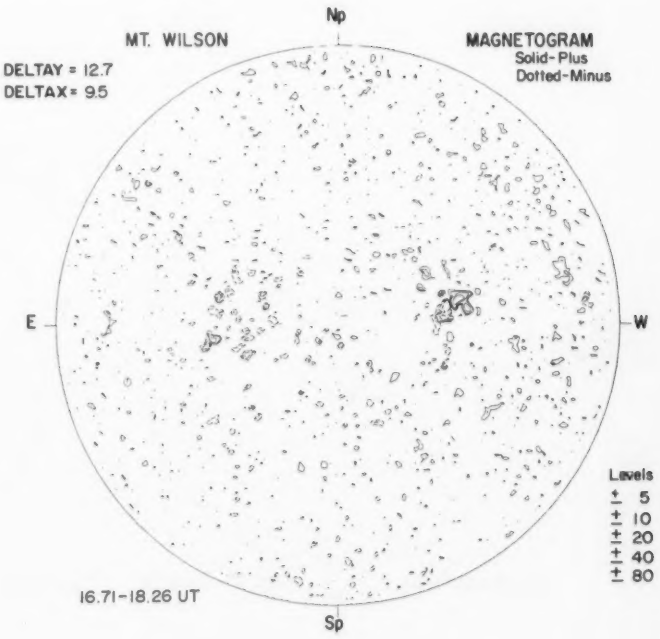
----UT

Ant. Temp. Unit 100°K

FEBRUARY 24, 1976 (P =-19.99, B_0 =-7.12, L_0 =157.56)

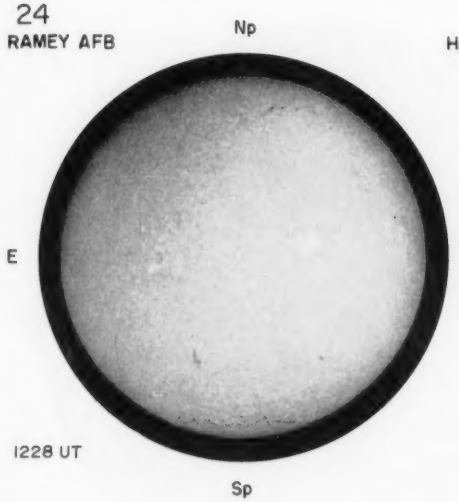






24

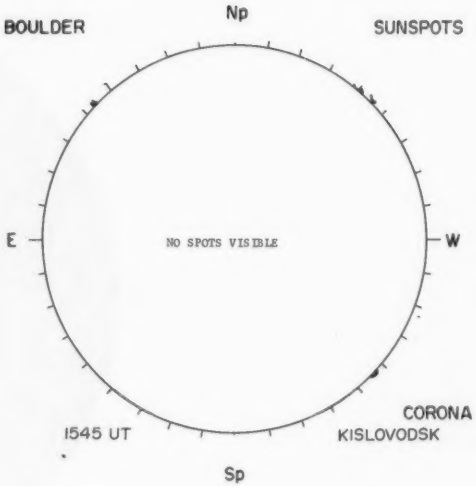
RAMEY AFB



1228 UT

Hα

BOULDER



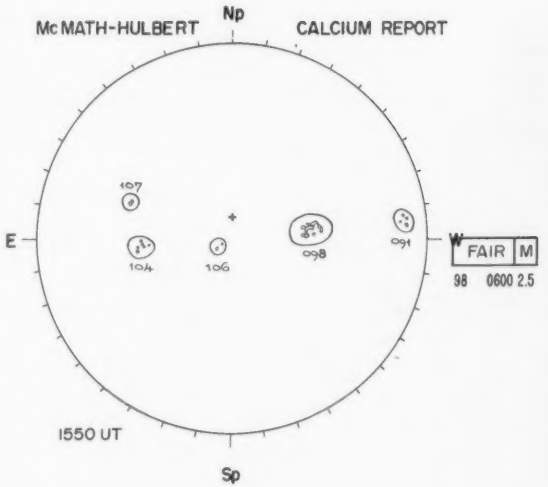
1545 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



1550 UT

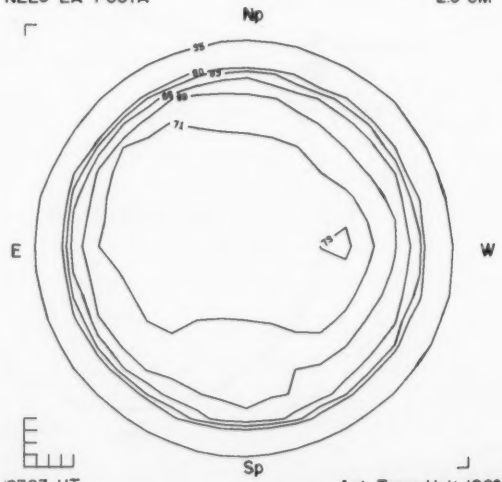
CALCIUM REPORT

FAIR | M

98 0600 2.5

NELC LA POSTA

2.0 CM

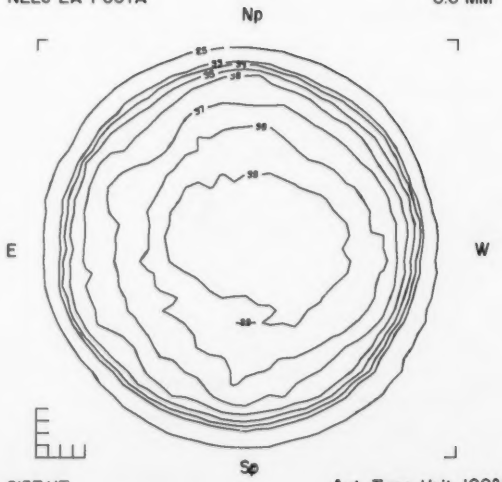


2323 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM

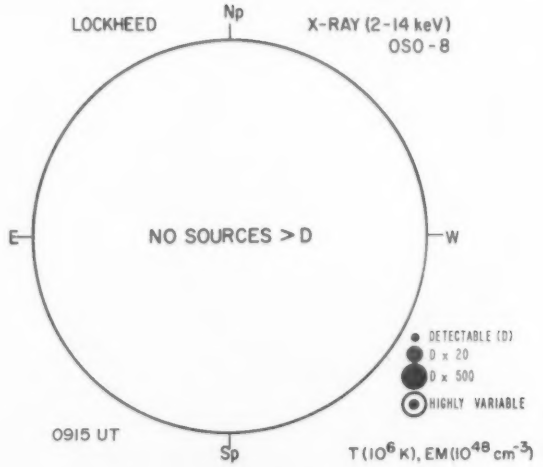


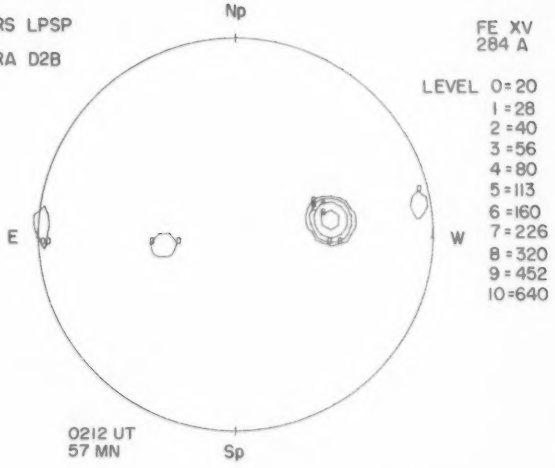
2157 UT

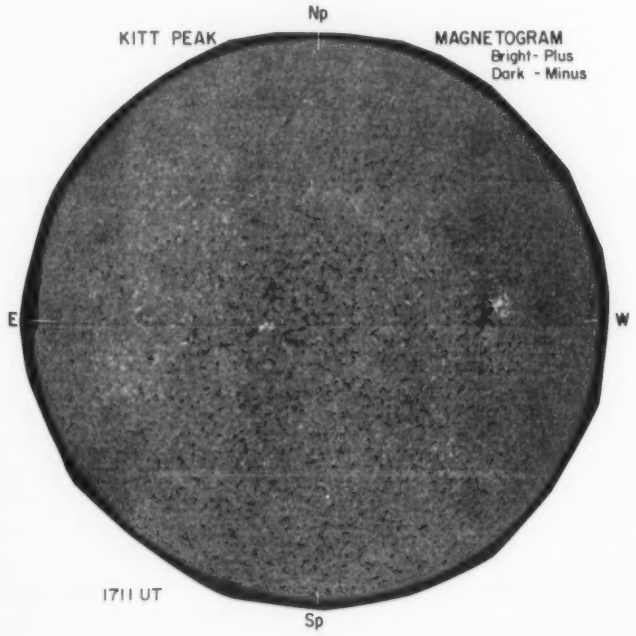
Ant. Temp. Unit 100° K

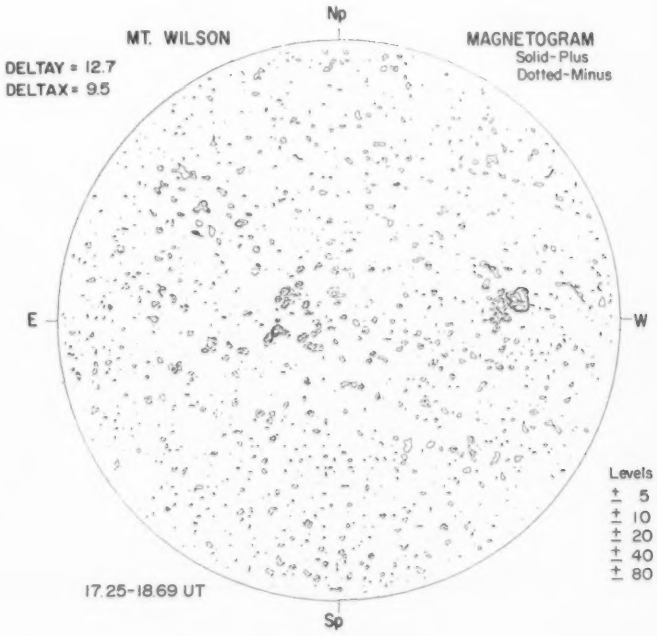
83
Feb 75

FEBRUARY 25, 1976 (P =-20.28, B_o =-7.14, L_o =144.39)







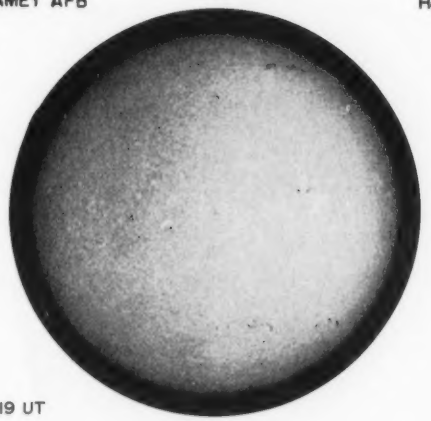


25

RAMEY AFB

Np

Hα



E W

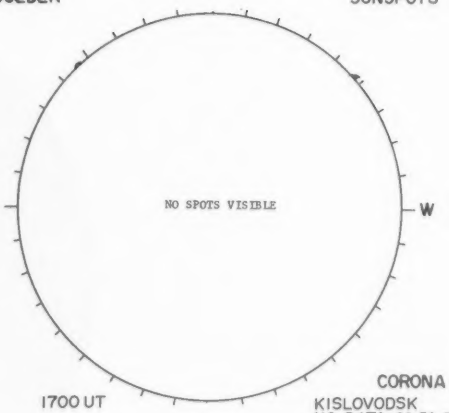
1219 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1700 UT

Sp

CORONA

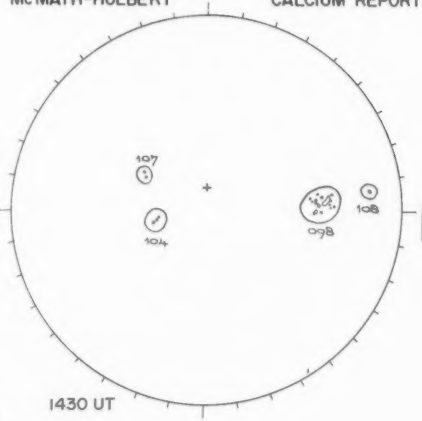
KISLOVODSK

NO DATA 0°,5°,230°, 235°

McMATH-HULBERT

Np

CALCIUM REPORT



E W

FAIR M

1430 UT

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

Sp

---- UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E EQUIPMENT W

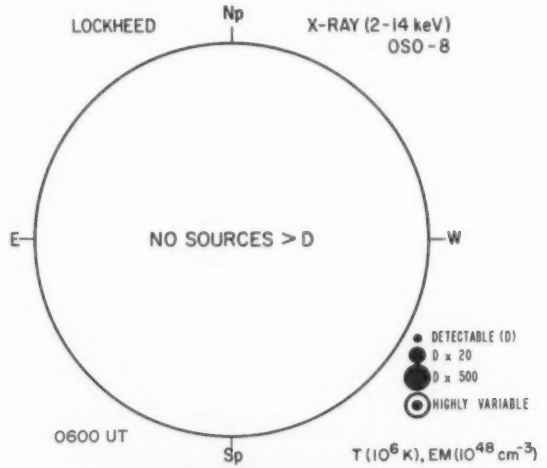
Sp

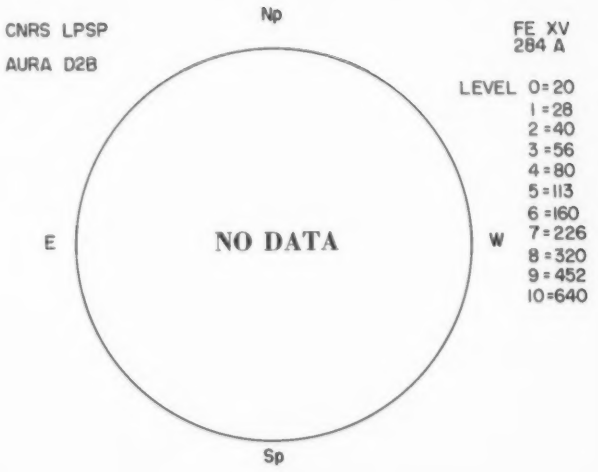
---- UT

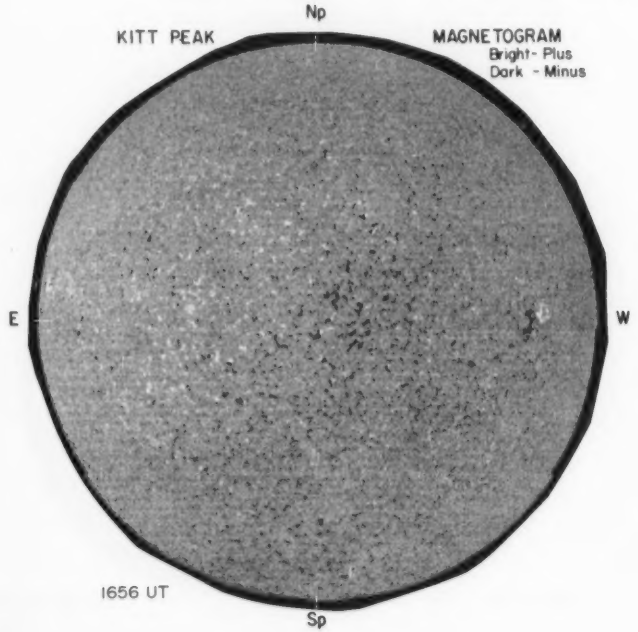
Ant. Temp. Unit 100°K

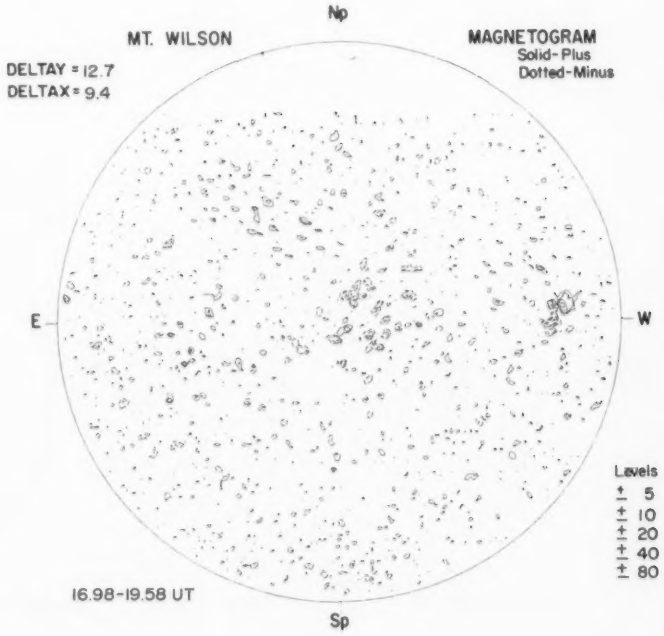
85
Feb 76

FEBRUARY 26, 1976 (P =-20.56, B_0 =-7.16, L_0 =131.22)



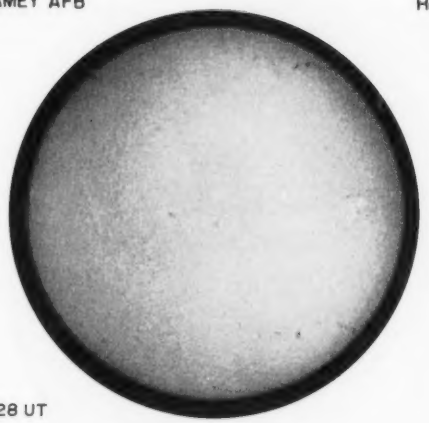






26

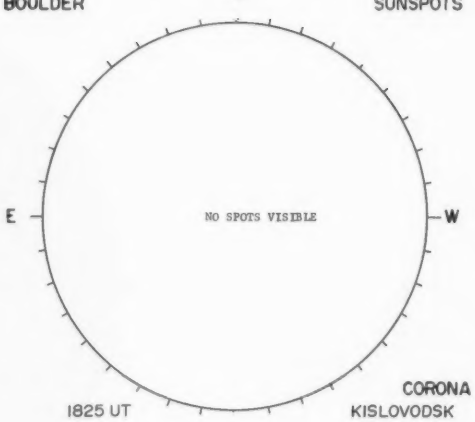
RAMEY AFB



1328 UT

Hα

BOULDER



1825 UT

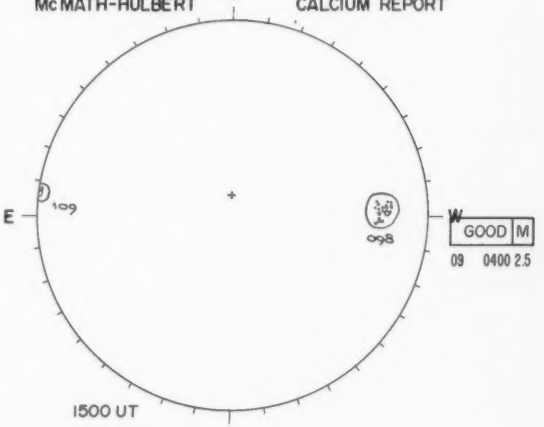
SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

CALCIUM REPORT



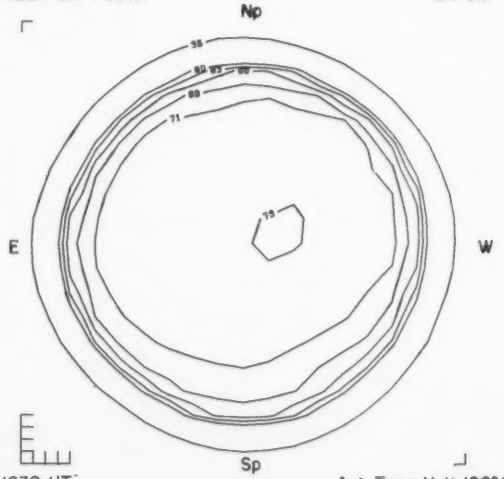
1500 UT

GOOD | M

09 0400 2.5

NELC LA POSTA

2.0 CM

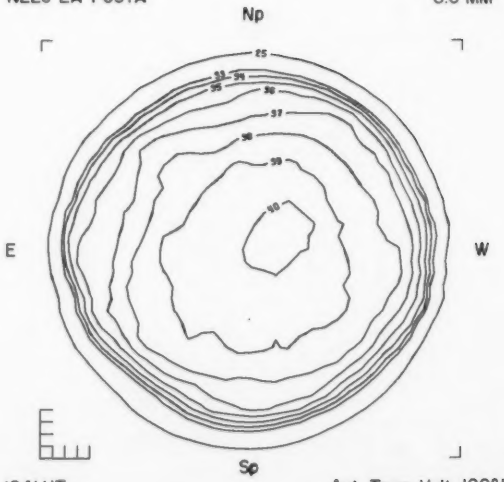


1839 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

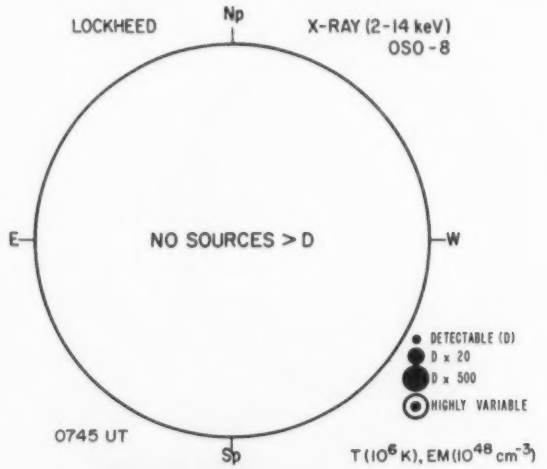


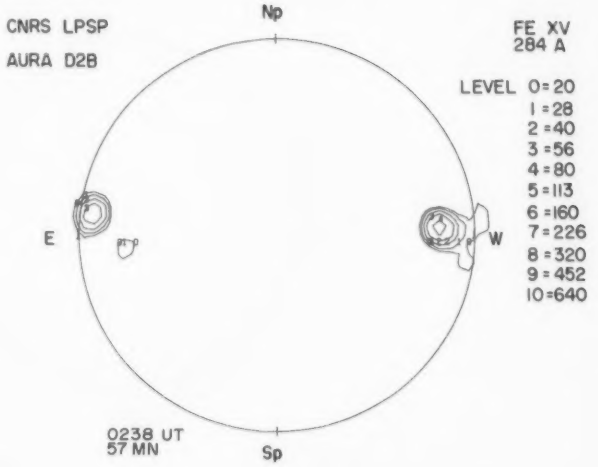
1941 UT

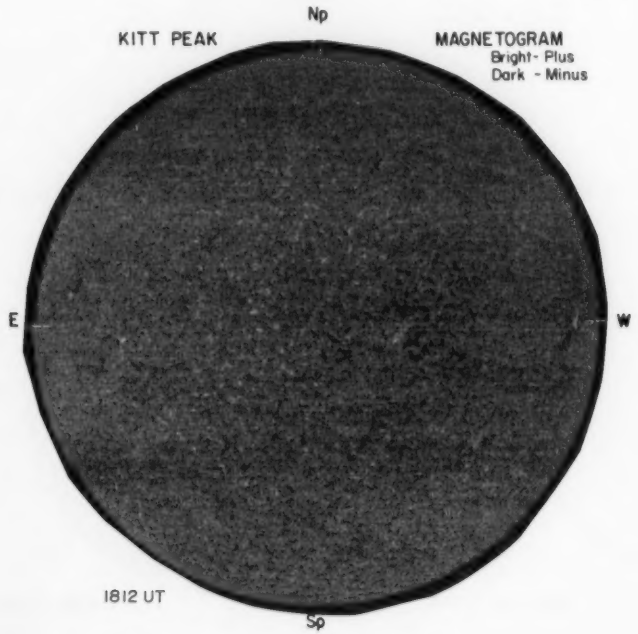
Ant. Temp. Unit 100°K

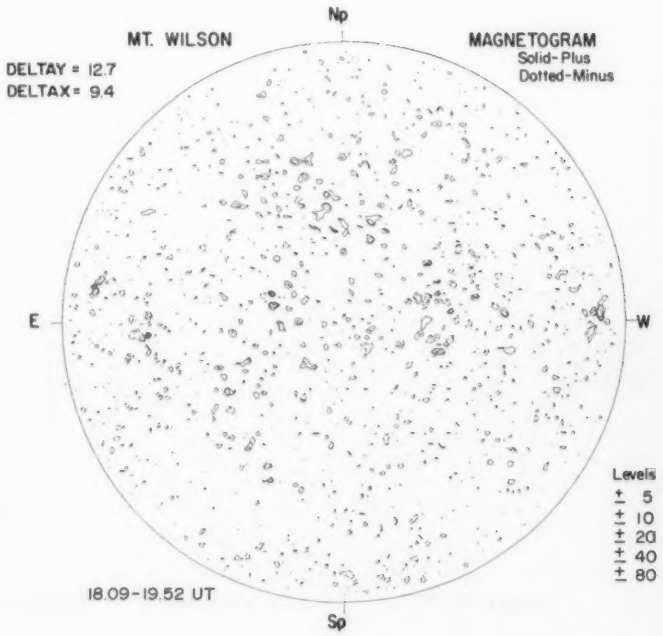
87
Feb 76

FEBRUARY 27, 1976 (P =-20.83, B_0 =-7.18, L_0 =118.05)



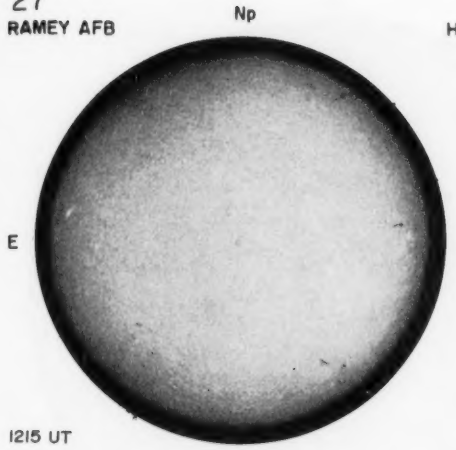






27

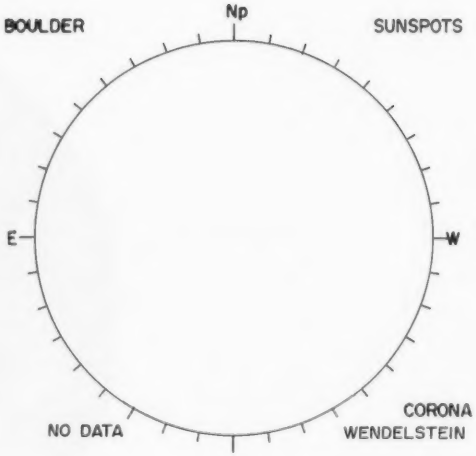
RAMEY AFB



1215 UT

Hα

BOULDER



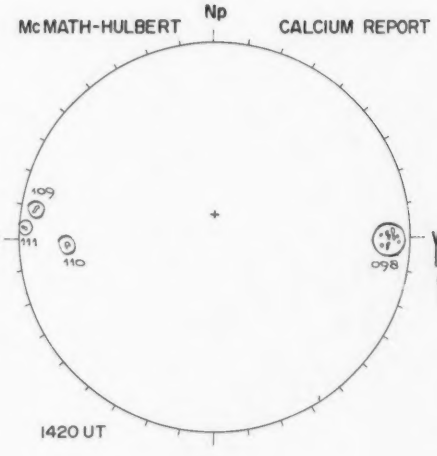
NO DATA

SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT



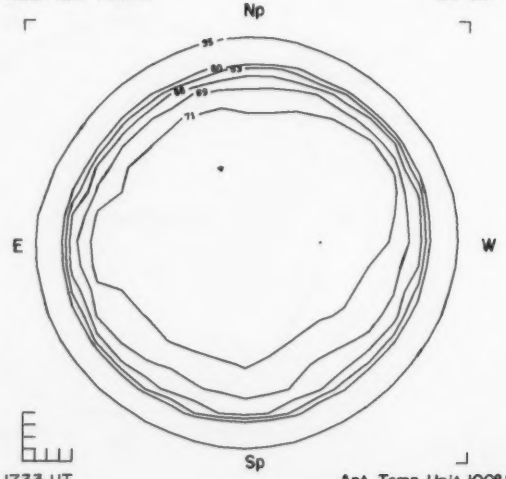
1420 UT

CALCIUM REPORT

	GOOD	M
09	0300	2.5
10	0100	2.5

NELC LA POSTA

2.0 CM

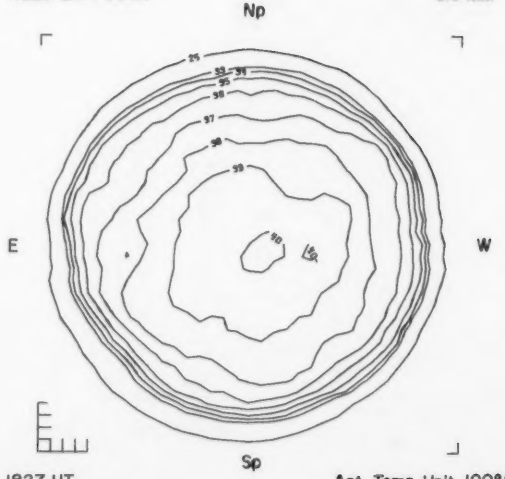


1733 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM

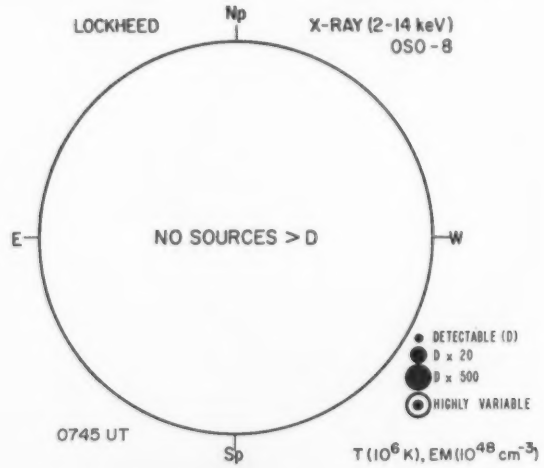


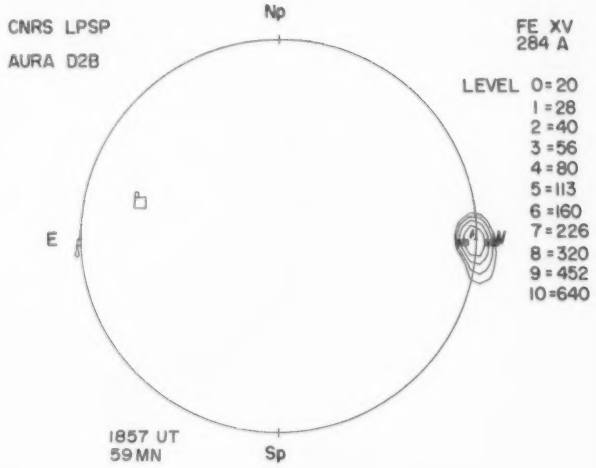
1827 UT

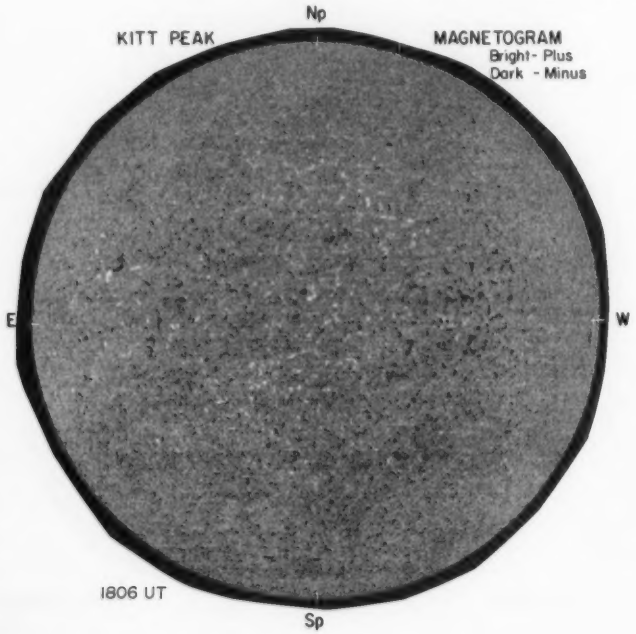
Ant. Temp. Unit 100° K

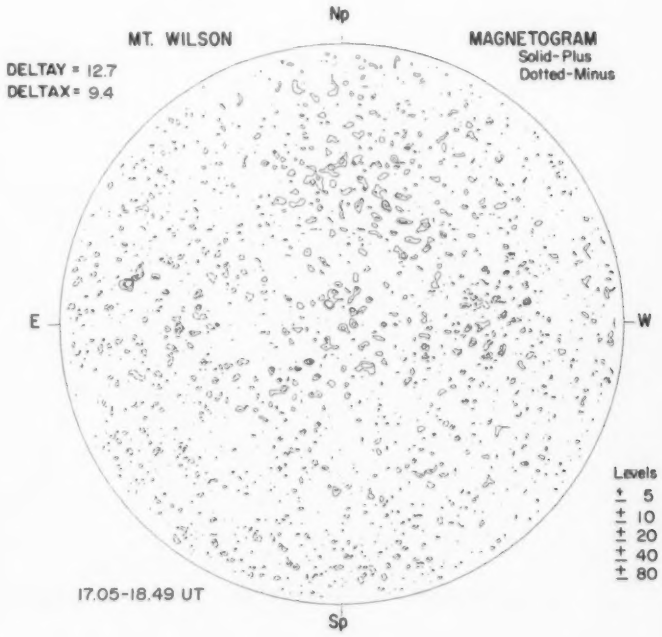
89
Feb 76

FEBRUARY 28, 1976 (P =-21.10, B_o =-7.20, L_o =104.88)



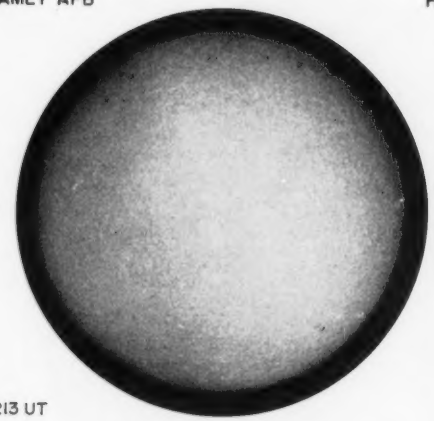






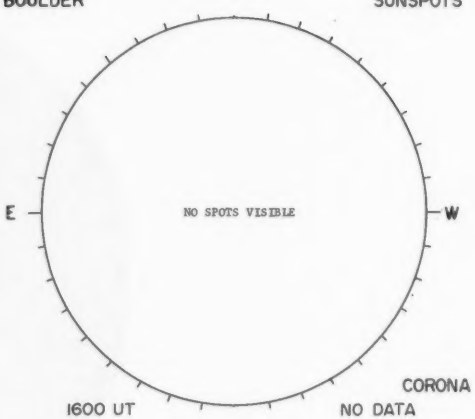
28

RAMEY AFB



1213 UT

Hα BOULDER



1600 UT

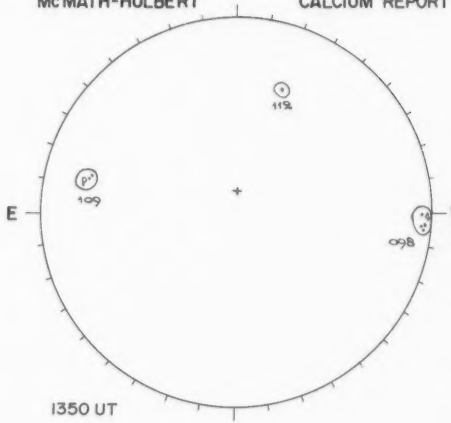
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

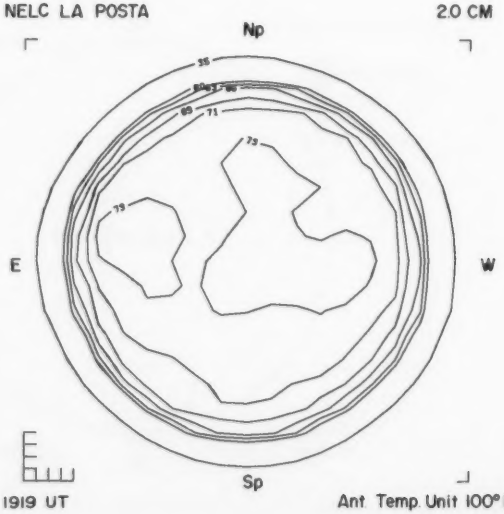
CALCIUM REPORT



1350 UT

GOOD | M

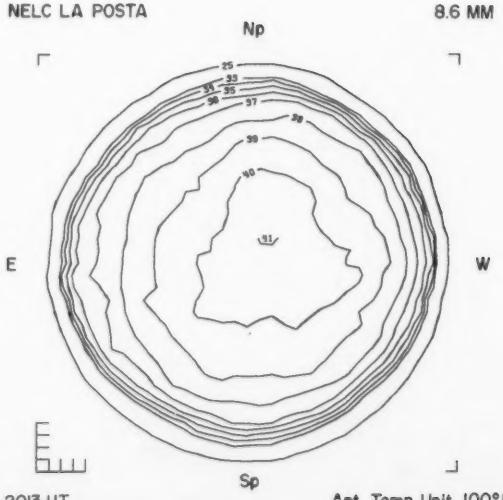
NELC LA POSTA 2.0 CM



1919 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

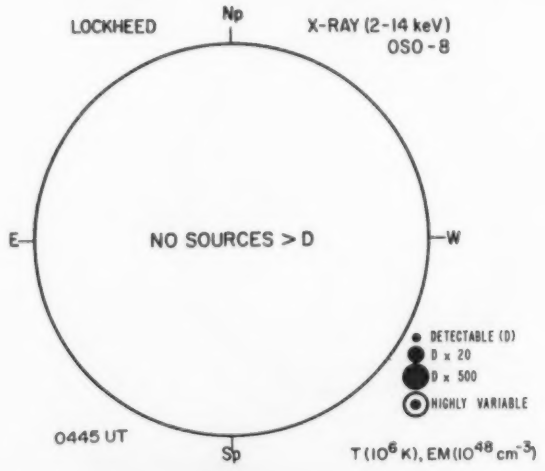


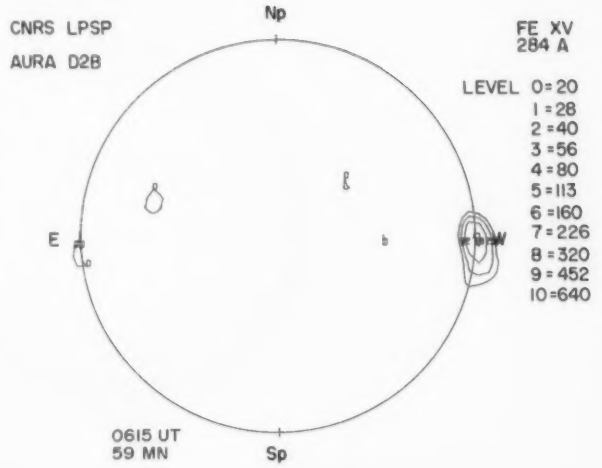
2013 UT

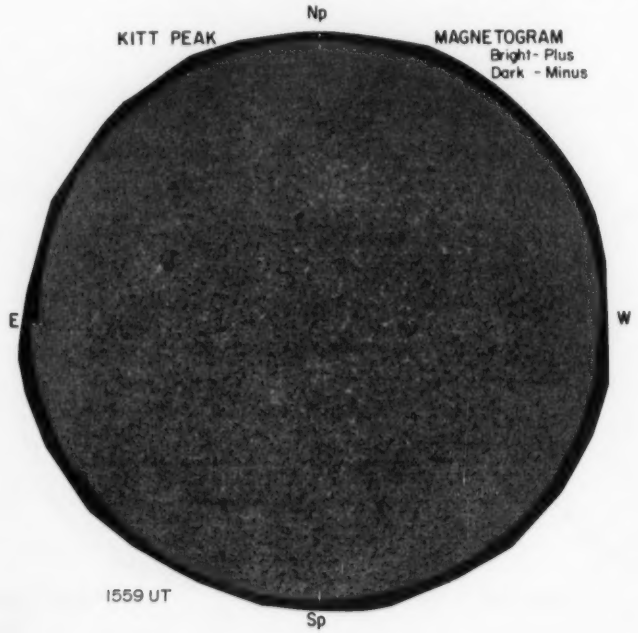
Ant. Temp. Unit 100°K

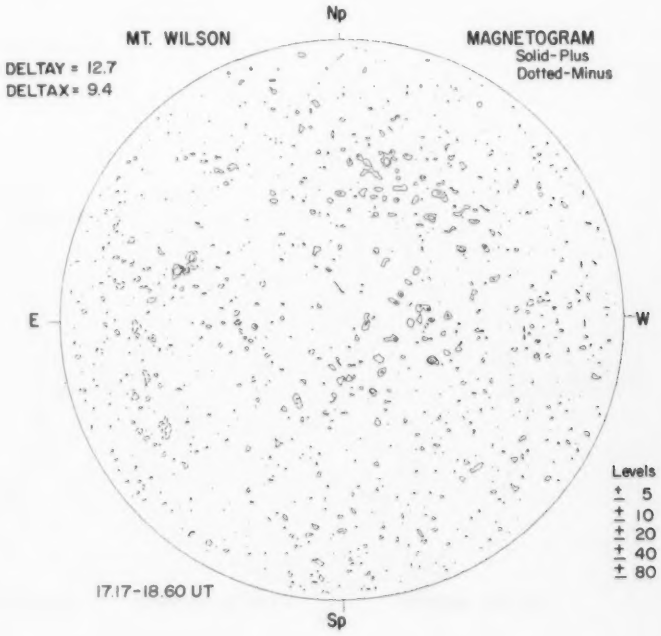
91
Feb 76

FEBRUARY 29, 1976 (P =-21.36, B_o =-7.21, L_o =91.71)



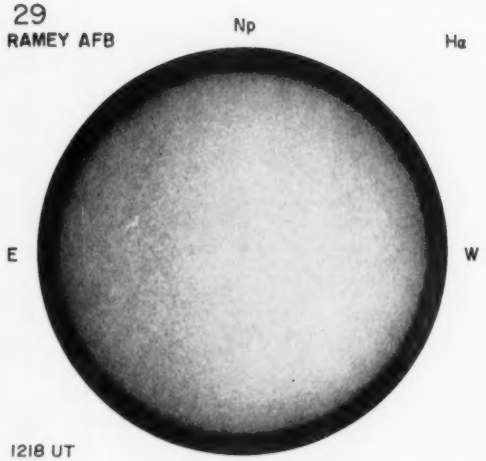






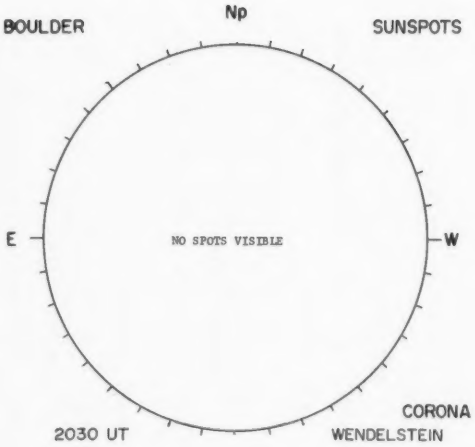
29

RAMEY AFB



1218 UT

Hα BOULDER



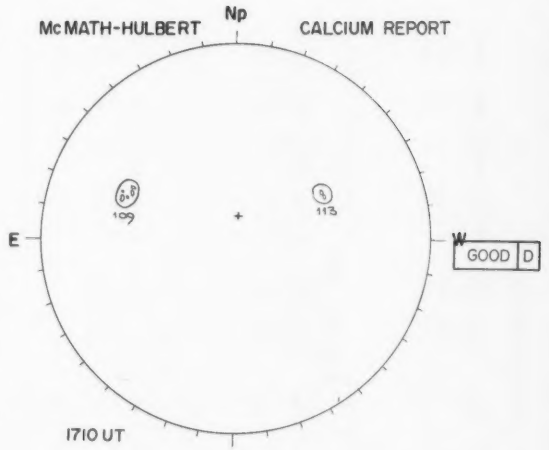
2030 UT

SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT

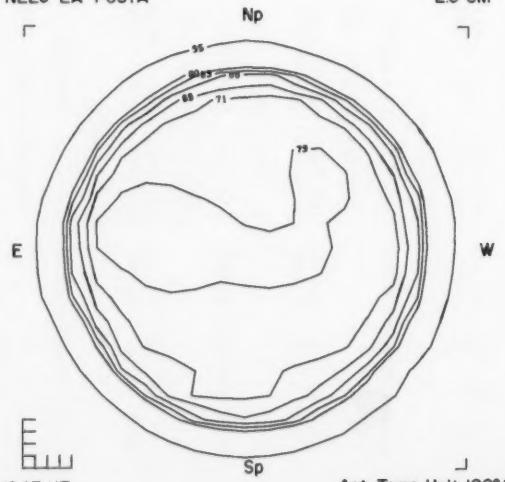


1710 UT

CALCIUM REPORT

GOOD | D

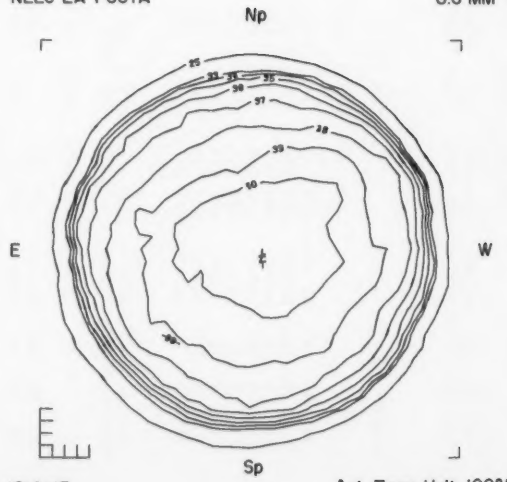
NELC LA POSTA 2.0 CM



1947 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



1814 UT

Ant. Temp. Unit 100°K

93
Feb 76

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14057 CMP DATE 1.3

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	1	30	14057	N32 E20	96	100	1.0									
76	1	31	14057	N31 E10	96	100	1.0									

MCMATH REGION 14074 CMP DATE 1.6

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	7	14074	N16 W79	91	100	1.0									

MCMATH REGION 14049 CMP DATE 1.7

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	1	26	14049	N09 E89	80	300	1.0									
76	1	27	14049	N09 E73	84	200	2.0									
76	1	28	14049	N08 E59	86	200	2.5									
76	1	29	14049	N08 E45	86	200	2.5		N07 E40				B	0	2	BXO
76	1	30	14049	N08 E28	88	400	2.5									
76	1	31	14049	N08 E16	90	100	1.5									
76	2	2	14049	N08 W12	89	300	1.5									

MCMATH REGION 14069 CMP DATE 2.0

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	6	14069	N03 W61	86	100	1.0									

MCMATH REGION 14070 CMP DATE 2.2

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	6	14070	N21 W53	84	100	1.0									

MCMATH REGION 14065 CMP DATE 2.8

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	4	14065	N57 W24	76	100	1.5									

MCMATH REGION 14058 CMP DATE 3.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	1	31	14058	N30 E34	72	100	1.0									

MCMATH REGION 14063 CMP DATE 3.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	3	14063	S36 W06	71	100	1.0									

MCMATH REGION 14064 CMP DATE 3.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	3	14064	N23 W06	71	100	1.0									

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14075 CMP DATE 4.1

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	7	14075	S04 W46	58	100	1.5							
76	2	8	14075	S04 W60	59	200	2.0							
76	2	9	14075	S04 W73	60	100	1.0							

MCMATH REGION 14076 CMP DATE 4.3

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	7	14076	N10 W44	56	100	1.0							

MCMATH REGION 14077 CMP DATE 4.5

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	7	14077	N48 W41	53	100	1.5							

MCMATH REGION 14066 CMP DATE 5.3

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	4	14066	N05 E09	43	100	1.5							

MCMATH REGION 14059 CMP DATE 5.4

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	1	31	14059	N34 E63	41	100	1.5							
76	1	31	14059	N34 E65	41	100	1.5							

MCMATH REGION 14062 CMP DATE 5.6

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	2	14062	S62 E39	38	100	1.0							

MCMATH REGION 14072 CMP DATE 7.3

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	6	14072	N03 E09	16	100	1.0							

MCMATH REGION 14078 CMP DATE 8.0

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	7	14078	N28 E06	6	200	2.5							
76	2	8	14078	N27 W06	5	200	2.0							
76	2	9	14078	N26 W19	6	200	2.5							
76	2	10	14078	N25 W35	6	100	1.5							
76	2	11	14078	N24 W46	6	100	1.0							
76	2	12	14078	N24 W60	6	100	1.0							

MCMATH REGION 14067 CMP DATE 8.2

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	2	4	14067	N28 E48	4	100	1.0							

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14071 CMP DATE 8.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	6	14071	S04 E22	3	200	2.5								
76	2	7	14071	S04 E09	3	200	2.5								
76	2	8	14071	S05 W01	0	300	1.5								
76	2	9	14071	S05 W16	3	300	1.5								
76	2	10	14071	S05 W31	2	100	1.0								

MCMATH REGION 14080 CMP DATE 8.8

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	8	14080	N04 E03	357	100	1.0								

MCMATH REGION 14081 CMP DATE 9.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	8	14081	S11 E03	351	100	1.0								
76	2	9	14081	S11 W05	352	200	1.5								

MCMATH REGION 14068 CMP DATE 9.9 RETURN OF REGION 14011 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	4	14068	N37 E80	333	500	1.5								
76	2	6	14068	N36 E45	340	200	2.0								
76	2	7	14068	N36 E33	340	200	1.5								
76	2	8	14068	N35 E19	341	200	1.0								
76	2	9	14068	N34 E04	343	200	2.0								

MCMATH REGION 14073 CMP DATE 10.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	6	14073	N06 E52	334	200	1.0								
76	2	7	14073	N06 E39	334	100	1.0								

MCMATH REGION 14082 CMP DATE 10.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	8	14082	N08 E32	328	100	1.5								
76	2	9	14082	N05 E17	330	300	2.5								
76	2	10	14082	N05 E02	329	200	2.0								
76	2	11	14082	N04 W10	330	200	1.5								
76	2	12	14082	N04 W23	329	200	1.5								
76	2	13	14082	N04 W36	330	100	1.0								

MCMATH REGION 14087 CMP DATE 11.7

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	12	14087	S23 W12	318	100	1.0								

MCMATH REGION 14092 CMP DATE 13.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	15	14092	N23 W36	301	200	1.5								

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14083 CMP DATE 14.0 RETURN OF REGION 14036 ROTATION 2

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	8	14083	N31 E70	290	200	1.5									
76	2	9	14083	N29 E58	289	200	2.0									

MCMATH REGION 14079 CMP DATE 14.1 RETURN OF REGION 14029 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	7	14079	S10 E90	283	200	1.0									
76	2	8	14079	S11 E75	285	500	2.0									
76	2	9	14079	S11 E61	286	500	2.0									
76	2	10	14079	S12 E44	287	400	2.0									
76	2	11	14079	S12 E34	286	400	2.0									
76	2	12	14079	S12 E20	286	400	2.0	19660	S12 E12	290	(BP)	2	R	10	1	AXX
76	2	13	14079	S12 E06	288	700	2.5	19660	S12 E02	290	(BP)	3				
76	2	14	14079	S12 W07	288	800	2.5	19660	S12 W12	291	(BP)	3				
76	2	15	14079	S12 W21	286	900	2.5	19660	S12 W25	292	BP		B	40	12	BXI
76	2	16						19660	S10 W40	293	(AP)	3	B	10	4	AXX
76	2	17	14079	S13 W49	289	800	2.5	19660	S11 W53	292	(AP)	2	B	10	1	AXX
76	2	18	14079	S12 W67	290	800	2.5	19660	S11 W66	292	(AP)	2	B	10	1	AXX
76	2	19	14079	S12 W77	290	800	2.0									

MCMATH REGION 14085 CMP DATE 14.3

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	11	14085	S53 E30	290	100	1.5									
76	2	12	14085	S54 E19	287	100	1.0									
76	2	13	14085	S54 E09	285	100	1.0									

MCMATH REGION 14088 CMP DATE 14.4

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	14	14088	N28 W03	284	100	2.0									
76	2	15	14088	N28 W20	285	200	1.5									
76	2	17	14088	N29 W41	281	100	1.0									

MCMATH REGION 14084 CMP DATE 15.3

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	10	14084	S07 E60	271	100	1.5									

MCMATH REGION 14086 CMP DATE 15.9

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	12	14086	S13 E43	263	100	1.0									

MCMATH REGION 14090 CMP DATE 16.6

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	14	14090	N15 E26	255	100	1.0									

MCMATH REGION 14101 CMP DATE 16.8

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	2	22	14101	S02 W77	251	100	1.5									

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14093 CMP DATE 17.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	15	14093	N38 E28	237	100	1.0								

MCMATH REGION 14099 CMP DATE 18.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	19	14099	S30 W22	235	100	1.5								
76	2	20	14099	S30 W34	236	100	1.0								
76	2	22	14099	S30 W60	234	100	1.5								

MCMATH REGION 14095 CMP DATE 18.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	15	14095	S13 E37	228	200	1.0								

MCMATH REGION 14096 CMP DATE 19.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	15	14096	N11 E42	223	100	1.5								

MCMATH REGION 14100 CMP DATE 19.5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	19	14100	N14 W03	216	100	1.0								
76	2	20	14100	N14 W14	216	100	1.0								

MCMATH REGION 14091 CMP DATE 20.2 RETURN OF REGION 14052 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	14	14091	N07 E84	197	600	1.5								
76	2	15	14091	N06 E60	205	600	2.0								
76	2	17	14091	N04 E35	205	400	1.5								
76	2	18	14091	N04 E19	204	300	1.0								
76	2	19	14091	N04 E07	206	300	1.0								
76	2	20	14091	N04 W05	207	300	1.0								
76	2	22	14091	N04 W33	207	400	1.0								
76	2	23	14091	N04 W48	210	200	1.0								
76	2	24	14091	N03 W62	210	200	1.0								

MCMATH REGION 14097 CMP DATE 21.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	17	14097	N26 E48	192	100	1.0								

MCMATH REGION 14108 CMP DATE 21.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
76	2	25	14108	N03 W55	191	100	1.5								

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14102 CMP DATE 22.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	22	14102	S02 W08	182	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 14103 CMP DATE 22.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	22	14103	N33 W02	176	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 14098 CMP DATE 22.9 RETURN OF REGION 14047 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	17	14098	S02 E75	165	900	2.5
76	2	18	14098	S03 E56	167	1100	3.0
76	2	19	14098	S03 E45	168	1000	3.0
76	2	20	14098	S03 E33	169	1000	2.5
76	2	21					
76	2	22	14098	S03 E03	171	800	3.0
76	2	23	14098	S03 W09	171	700	2.5
76	2	24	14098	S03 W24	172	600	2.5
76	2	25	14098	S03 W37	173	500	2.0
76	2	26	14098	S03 W51	173	500	2.0
76	2	27	14098	S03 W64	173	500	1.5
76	2	28	14098	S03 W77	173	400	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19661	S03 E70	169	(B)	1				
19661	S03 E57	169	(B)	3				
19661	S03 E43	169	B		B	20	7	BXI
19661	S03 E29	171	(B)	3	H	40	4	BXO
19661	S03 E16	172	(BP)	3	B	10	2	BXO
19661	S03 W06	167		1	2			

MCMATH REGION 14106 CMP DATE 25.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	24	14106	S09 E04	144	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 14104 CMP DATE 26.7

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	22	14104	S08 E55	119	200	3.0
76	2	23	14104	S08 E42	120	200	2.0
76	2	24	14104	S08 E28	120	200	1.5
76	2	25	14104	S09 E15	121	100	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19662	S08 E53	121	(AP)	2	B	10	2	AXX

MCMATH REGION 14107 CMP DATE 27.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	24	14107	N05 E31	117	100	1.5
76	2	25	14107	N04 E19	117	100	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 14105 CMP DATE 27.3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	23	14105	N14 E49	113	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 14112 CMP DATE 27.4

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
76	2	28	14112	N33 W16	112	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1976

MCMATH REGION 14113 CMP DATE 27.7

				CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	2	29	14113	N08 W27	108	100	2.0								

No calcium spectroheliograms were secured at McMath-Hulbert Observatory on February 1, 5, 16 and 21, 1976.
No sunspot observations were made at Mt. Wilson Observatory on February 4 - 10, 1976.

DAILY CALCIUM PLAGE INDEX

FEBRUARY 1976

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
76	2	1	*	76	2	11	1.1	76	2	21	*
76	2	2	0.7	76	2	12	1.3	76	2	22	3.4
76	2	3	0.2	76	2	13	1.8	76	2	23	2.2
76	2	4	0.6	76	2	14	2.3	76	2	24	2.0
76	2	5	*	76	2	15	3.4	76	2	25	1.1
76	2	6	1.0	76	2	16	*	76	2	26	0.7
76	2	7	1.5	76	2	17	2.4	76	2	27	0.8
76	2	8	1.8	76	2	18	2.8	76	2	28	0.5
76	2	9	2.8	76	2	19	2.9	76	2	29	0.7
76	2	10	1.2	76	2	20	2.5				

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

FEBRUARY 1976

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		

THERE WERE NO FLARE ASSOCIATED EVENTS TO REPORT THIS MONTH

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-04	0000-2400 A4
01-29	0000-2400 A36, 0000-2400 A41
02	0000-2400 A1
04	1700-2400 UM (10 kHz)
05	0000-1339 UM (10 kHz), 0545-0630 UM (13 kHz), 0652-0757 UM (13 kHz), 1813-1919 UM (10 kHz), 1957-2106 UM (10 kHz)
06	0712-0753 UM (13 kHz), 1715-2134 UM (10 kHz)
07	0726-0820 UM (13 kHz), 0815-0843 UM (10 kHz)
08	1644-1700 TM
11	2225-2400 UM (13 kHz)
12-13	0000-2400 A30
15-29	0000-2400 A29
15	2030-2115 UM (10 kHz)
16	0000-2400 A1, 0155-0302 UM (13 kHz), 2038-2111 UM (13 kHz)
17	0000-2400 A1, 2012-2121 Um (10 kHz)
18	1555-2400 UM (10 kHz)
19	0000-0142 UM (10 kHz), 2025-2134 UM (13 kHz)
20-27	0000-2400 A37
20	2020-2105 UM (13 kHz), 2205-2246 UM (10 kHz)
22	2010-2115 UM (10 kHz), 2330-2400 UM (10 kHz)
24-29	0000-2400 A4, 0000-2400 A40
24	0636-1214 MC
25-29	0000-2400 TN
26	2020-2120 UM (13 kHz)
27	1105-1240 UM (10 kHz)
28	2015-2120 UM (10 kHz)
29	0000-2400 A1, 0000-2400 A34, 0040-1208 MC

STATIONS REPORTING FOR FEBRUARY 1976

AAVSO (A1, A4, A19, A21, A28, A29, A30,
A31, A33, A34, A35, A36, A37, A40,
A41)(SES) (A1, A26, A31)(SEA) (A31) (SWF)
DARMSTADT (DA) (SWF)
DEBRE ZEIT (DE) (SPA)
HERMANUS (HS) (SEA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
MCMATH (MC) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
SAO PAULO (UM) (SES, SPA)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS
FEBRUARY 1976

FEB 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0030	BOUL										
	0000	0745	CULG										
	0717	1605	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2045	2400	CULG										
02	0000	0745	CULG										
	0000	0030	BOUL										
	0716	1605	DURN										
	1400	2400	BOUL										
	1401	2345	HARV				1645		2	1645		2	IIIB
	2045	2400	CULG										
03	0000	0745	CULG										
	0000	0030	BOUL										
	0715	1605	DURN										
	1400	2400	BOUL										
	1402	2345	HARV										
	2045	2400	CULG										
04	0000	0745	CULG										
	0000	0030	BOUL										
	0714	1605	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2045	2400	CULG										
05	0000	0730	CULG										
	0000	0030	BOUL										
	0714	1605	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2045	2400	CULG										
06	0000	0730	CULG										
	0000	0030	BOUL										
	0714	1434	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	1440	1605	DURN										
	2045	2400	CULG										
07	0000	0730	CULG										
	0000	0030	BOUL										
	0714	1432	DURN										
	1400	2300	BOUL										
	1402	2345	HARV										
	1435	1605	DURN										
	2045	2400	CULG										
08	0000	0730	CULG										
	0714	1610	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2045	2400	CULG										
09	0000	0735	CULG										
	0000	0030	BOUL										
	0705	1614	DURN										
	1400	2400	BOUL										
	1400	2345	HARV										
	2045	2400	CULG										
10	0000	0735	CULG										
	0000	0030	BOUL										
	0704	0747	DURN										
	1400	2400	BOUL										
	1402	2345	HARV										
	1444	1616	DURN										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS
FEBRUARY 1976

FEB 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
10	2045	2400	CULG										
11	0000	0735	CULG										
	0000	0030	BOUL										
	0703	1620	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2045	2400	CULG										
12	0000	0735	CULG										
	0000	0030	BOUL										
	0702	1615	DURN										
	1400	2400	BOUL							1530.8	1531.1	1	III
			BOUL							1541.9	1542.2	1	III
			BOUL				1908.1	1911.0	2	1908.1	1911.0	2	IIIG
	1402	2345	HARV				1908	1911	3	1908	1911	3	IIIGG,V
			BOUL							1923.6	1924.0	1	III
			HARV				1924		2	1924		2	IIIG
			BOUL				2110.5	2111.6	1	2110.5	2111.6	1	III
	2045	2400	CULG				2111	2112	1	2111	2112	1	IIIB
			HARV				2111		2	2111		2	IIIB
			CULG				2144	2146	1				IIIG,U
			CULG				2322	2325					IIIG,W
			CULG				2342		1				IIIG
13	0000	0030	BOUL										
	0000	0735	CULG				0001.5	0003					IIIG,W
			CULG				0006	0007					IIIG,W
			CULG				0345	0355					IIIG,W
	0657	1620	DURN										
	1400	2400	BOUL										
	1402	2345	HARV										
	2045	2400	CULG										
14	0000	0735	CULG										
	0000	0030	BOUL										
	0654	1621	DURN										
	1400	2400	BOUL										
	1402	2345	HARV										
	2045	2400	CULG										
15	0000	0735	CULG										
	0000	0030	BOUL										
	0653	1621	DURN										
	1400	2400	BOUL										
	1404	2345	HARV										
	2050	2400	CULG										
16	0000	0735	CULG										
	0000	0030	BOUL										
	0652	1610	DURN										
	1400	2400	BOUL										
	1401	2345	HARV										
	2050	2400	CULG										
17	0000	0030	BOUL										
	0000	0735	CULG				0520	0521	1				IIIG
	0709	1625	DURN										
	1400	1600	BOUL										
	1402	2345	HARV										
	1800	2400	BOUL										
	2050	2400	CULG										
18	0000	0735	CULG										
	0000	0100	BOUL										
	0648	1625	DURN										
	1400	2400	BOUL										
	1402	2345	HARV										
	2050	2400	CULG										
19	0000	0735	CULG										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS
FEBRUARY 1976

FEB 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
19	0000	0100	BOUL										
	0647	1630	DURN										
	1330	2400	BOUL										
	1401	2345	HARV										
	2050	2400	CULG										
20	0000	0735	CULG										
	0000	0100	BOUL										
	0645	1630	DURN										
	1330	2400	BOUL										
	1347	2345	HARV										
	2050	2400	CULG				2152		1				IIIB
21	0000	0100	BOUL										
	0000	0745	CULG				0225						IIIB,W
	0645	1632	DURN										
	1330	2400	BOUL										
	1348	2345	HARV										
	2045	2400	CULG										
22	0000	0745	CULG										
	0000	0100	BOUL										
	0642	1523	DURN										
	1330	2400	BOUL										
	1348	2345	HARV										
	1531	1635	DURN										
	2045	2400	CULG										
23	0000	0745	CULG										
	0000	0100	BOUL										
	0641	1635	DURN										
	1330	2400	BOUL										
	1348	2345	HARV										
	2045	2400	CULG										
24	0000	0745	CULG										
	0000	0100	BOUL										
	0641	1635	DURN										
	1330	1530	BOUL										
	1345	2345	HARV										
	1800	2400	BOUL										
	2045	2400	CULG										
25	0000	0100	BOUL										
	0000	0745	CULG				0427		1				IIIB
	0540	1635	DURN										
	1345	2345	HARV										
	1400	1800	BOUL										
	2100	2400	BOUL										
	2110	2400	CULG										
26	0000	0745	CULG										
	0000	0100	BOUL										
	0637	1638	DURN										
	1330	2400	BOUL										
	1345	2345	HARV										
	2045	2400	CULG										
27	0000	0745	CULG										
	0000	0100	BOUL										
	0635	1650	DURN										
	1330	2400	BOUL										
	1345	2345	HARV										
	2045	2400	CULG										
28	0000	0745	CULG										
	0000	0100	BOUL										
	0636	0838	DURN										
	0846	1650	DURN										
	1330	2400	BOUL										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS
FEBRUARY 1976

FEB 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
28	1346	2345	HARV										
	2045	2400	CULG										
29	0000	0745	CULG										
	0000	0100	BOUL										
	0634	1650	DURN										
	1330	2400	BOUL										
	1345	2345	HARV										
	2045	2400	CULG										

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

SELECTED SOLAR EVENTS

FEBRUARY 1976

Culgoora

UT Date 1976 FEBRUARY	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions		Polar-ization	Inten-sity (1-3)		
				Central Dist. ($R_\odot$)	Position Angle (Deg.)				
13	0000	0001	160	0.6	90	0	‡		
			80	0.7	80	0		IIIG	*
			43.25	1.0	80	-			

Days without Heliograph observations: ....NIL.....

*Other type III bursts observed at same position during day.

‡ Because of equipment modifications which are in progress, intensity classifications are not available. An indication of intensities can be obtained from corresponding entries in "Solar Radio Emission-Spectral Observations".

COSMIC RAY INDICES

(Neutron Monitors)

FEBRUARY 1976

FEB. 1976	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	CLIMAX Average cts/hr	TOKYO Average cts/hr
1	4484.7	7428.4	6967.2			6189.7	4174.3	3551.2
2	4488.1	7420.5	6995.2			6191.1	4182.1	3549.2
3	4489.6	7432.2	6994.6			6206.6	4199.0	3553.2
4	4535.5	7501.2	7007.9			6227.0	4229.9	3563.5
5	4544.5	7537.8	7024.3			6245.5	4242.6	3556.5
6	4557.6	7550.8	7053.1			6251.6	4231.8	3573.0
7	4555.8	7545.7	7087.7			6264.5	4248.2	3576.8
8	4552.6	7541.3	7072.1			6263.8	4237.3	3576.4
9	4546.5	7538.7	7029.4			6268.0	4233.3(6)	3568.2
10	4539.8	7517.2	7005.6			6309.7	-- (0)	3578.6
11	4543.2	7514.0	7024.5			6335.5	-- (0)	3578.1
12	4570.5	7564.8	7054.2			6364.9	-- (0)	3575.1
13	4573.8	7587.0	7034.0			6356.8	-- (0)	3577.3
14	4570.3	7569.4	7040.4			6348.5	-- (0)	3571.3
15	4577.1	7577.5	7040.4			6323.3	-- (0)	3570.1
16	4583.4	7591.3	7050.5			6325.2	4262.6(36)	3565.0
17	4574.3	7584.7	7062.5			6349.8	4276.3	3564.6
18	4518.7	7491.2	6981.5			6288.7	4211.5	3535.0
19	4520.9	7487.3	7010.1			6279.0	4219.3	3545.6
20	4522.9	7485.2	7009.3			6283.7	4240.4	3548.3
21	4525.0	7490.4	6975.6			6272.6	4208.7	3547.0
22	4529.1	7486.7	6996.5			6276.5	4196.9	3536.7
23	4548.7	7512.8	7036.8			6280.7	4210.9	3556.5
24	4548.9	7525.2	7012.3			6283.8	4222.8	3561.0
25	4548.1	7514.7	7012.7			6272.9	4221.2	3553.2
26	4540.3	7513.3	7022.7			6263.5	4215.9	3550.2
27	4546.8	7534.7	7025.4			6289.3	4230.8	3558.6
28	4524.8	7493.4	7001.0			6263.5	4218.6	3550.4
29	4477.6	7414.5	6952.0			6271.8	4203.9	3541.0
MEAN	4539.3	7515.6	7020.0			6281.0	4222.0	3559.7

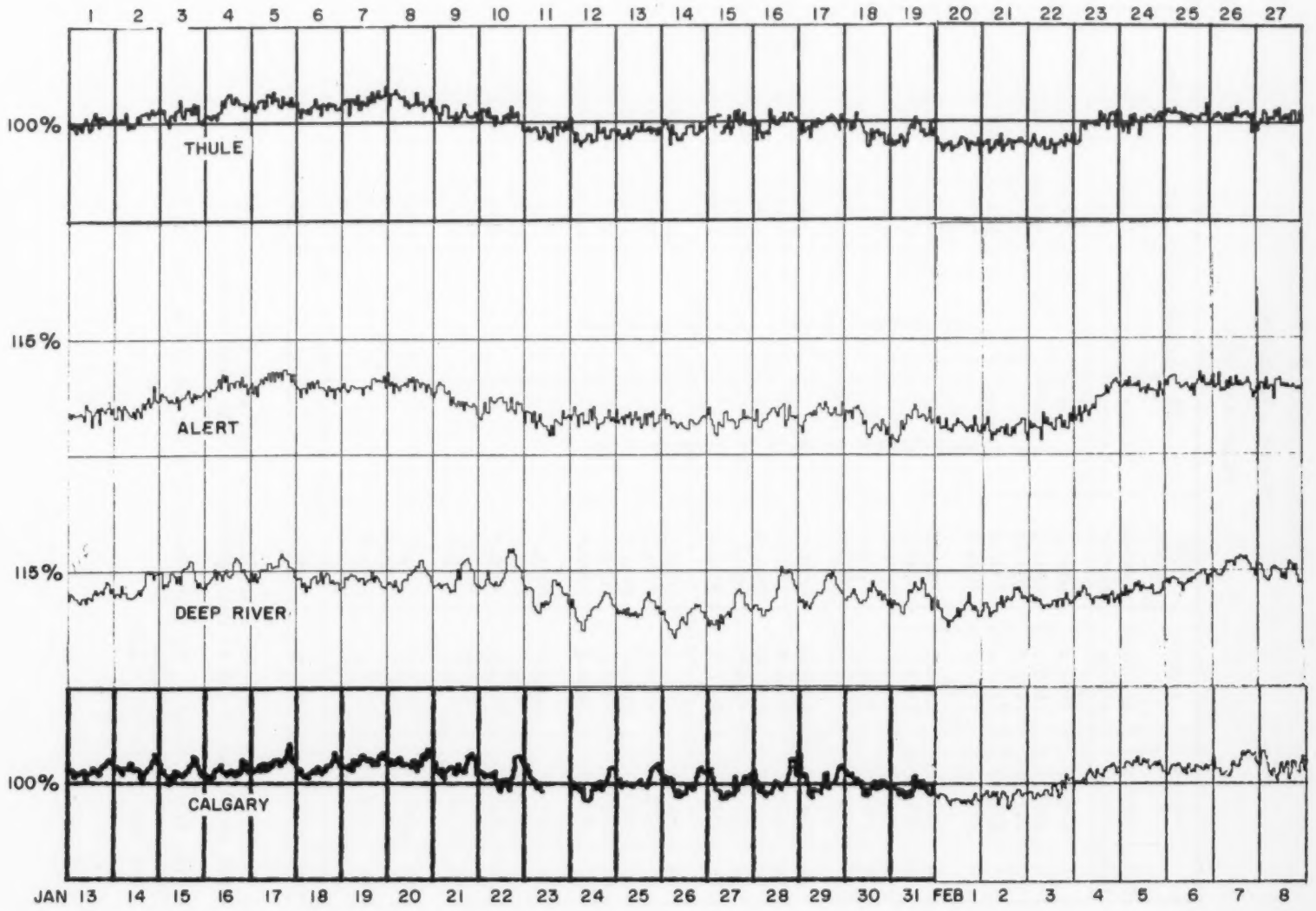
Not available at time of publication

Not available at time of publication

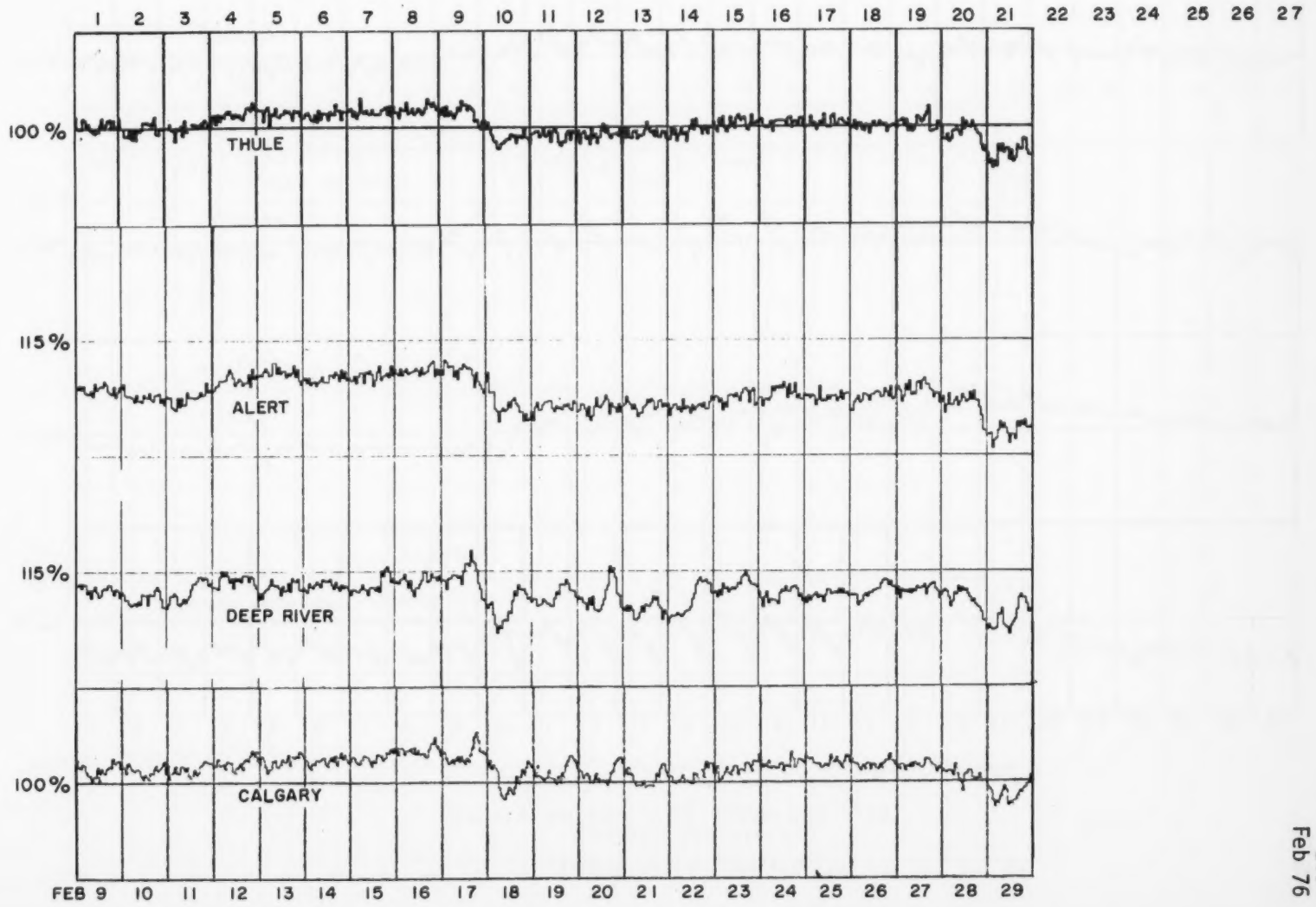
( ) Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo Scaling Factor = 128.

COSMIC RAY INDICES
(Neutron Monitors)
Bartel's Rotation 1948 (JAN-FEB 1976)



COSMIC RAY INDICES
(Neutron Monitors)
Bartel's Rotation 1949 (FEBRUARY 1976)



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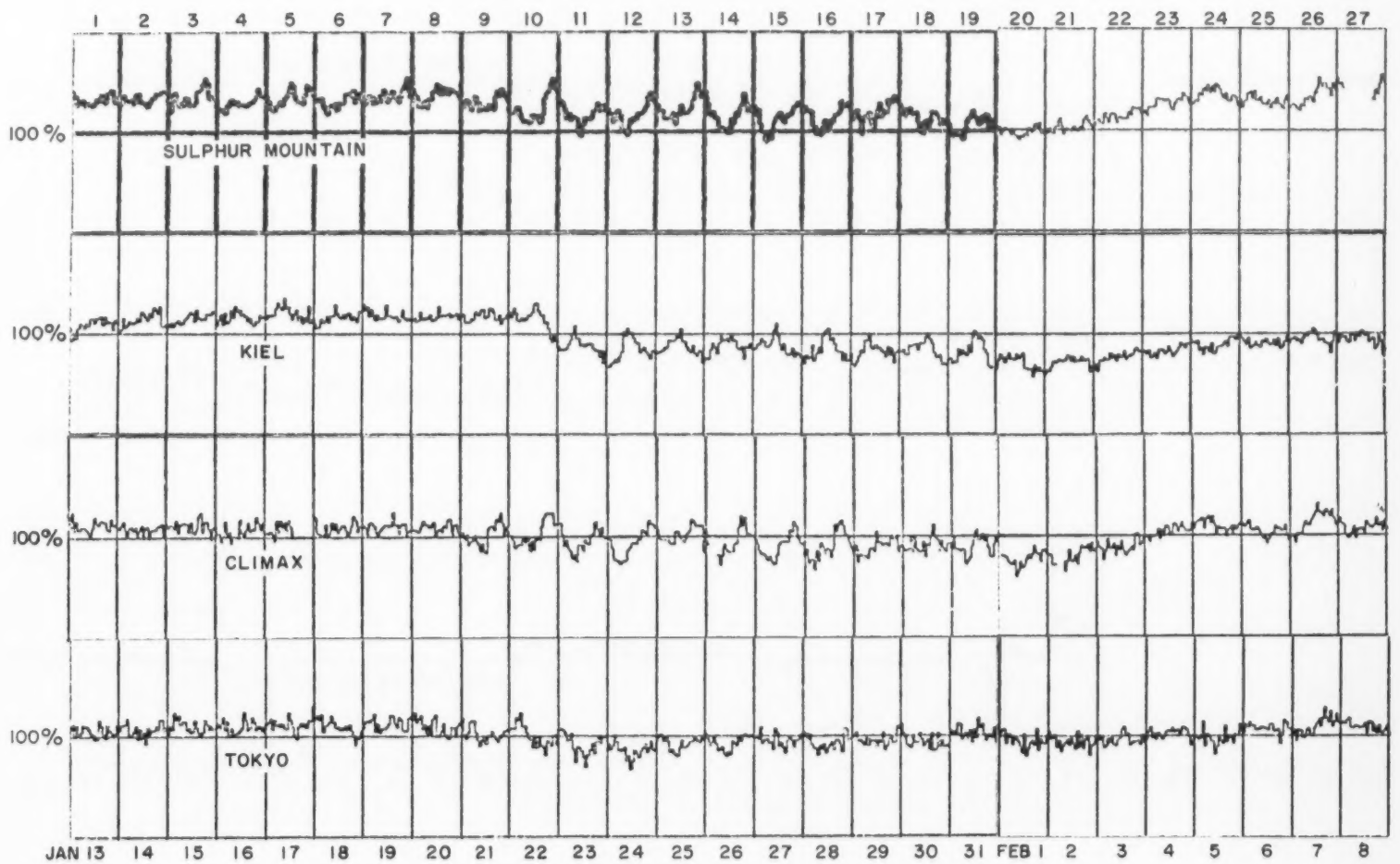
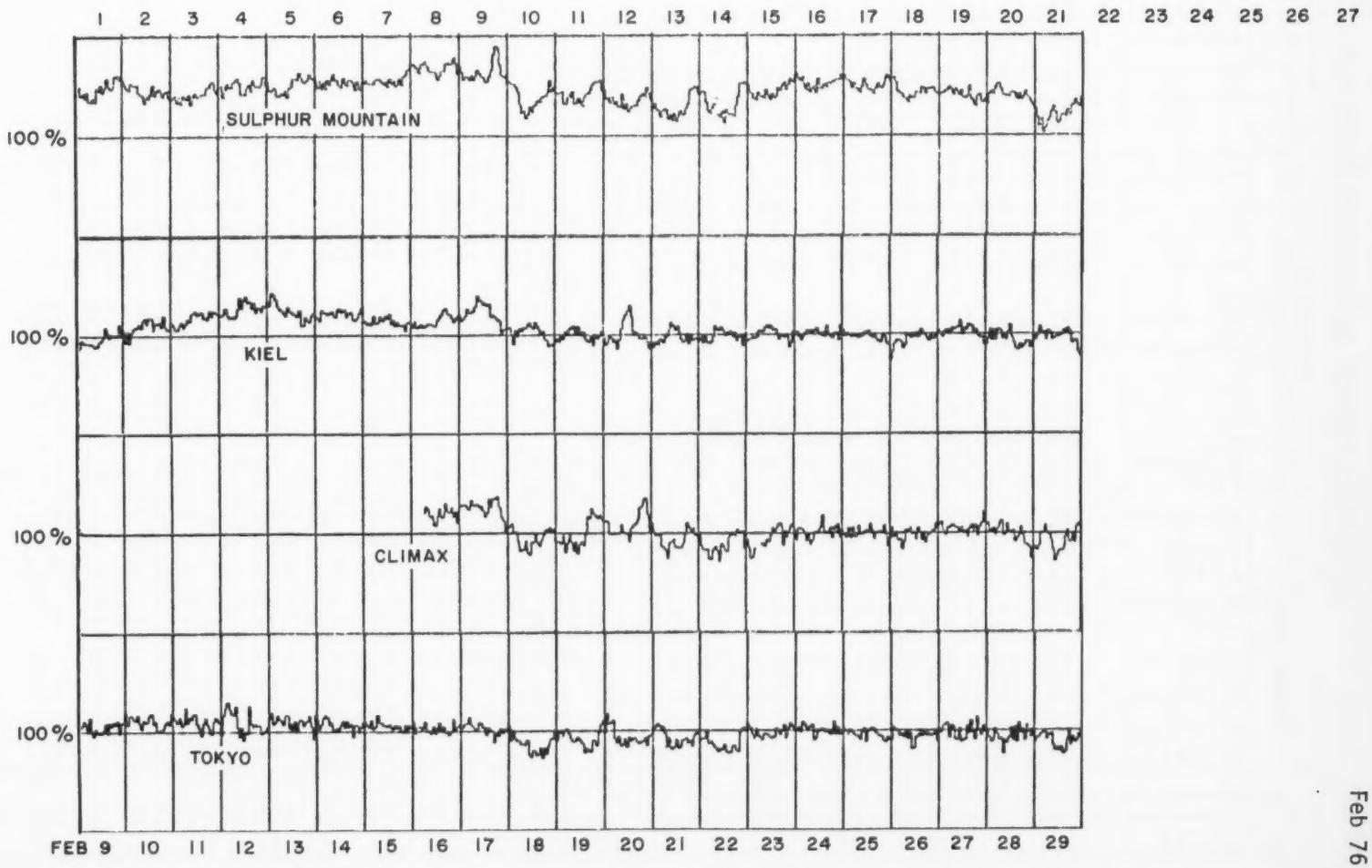
Feb 76

COSMIC RAY INDICES
(Neutron Monitors)
Bartel's Rotation 1948 (JAN-FEB 1976)



COSMIC RAY INDICES
(Neutron Monitors)
Bartel's Rotation 1949 (FEBRUARY 1976)



GEOMAGNETIC ACTIVITY INDICES

FEBRUARY 1976

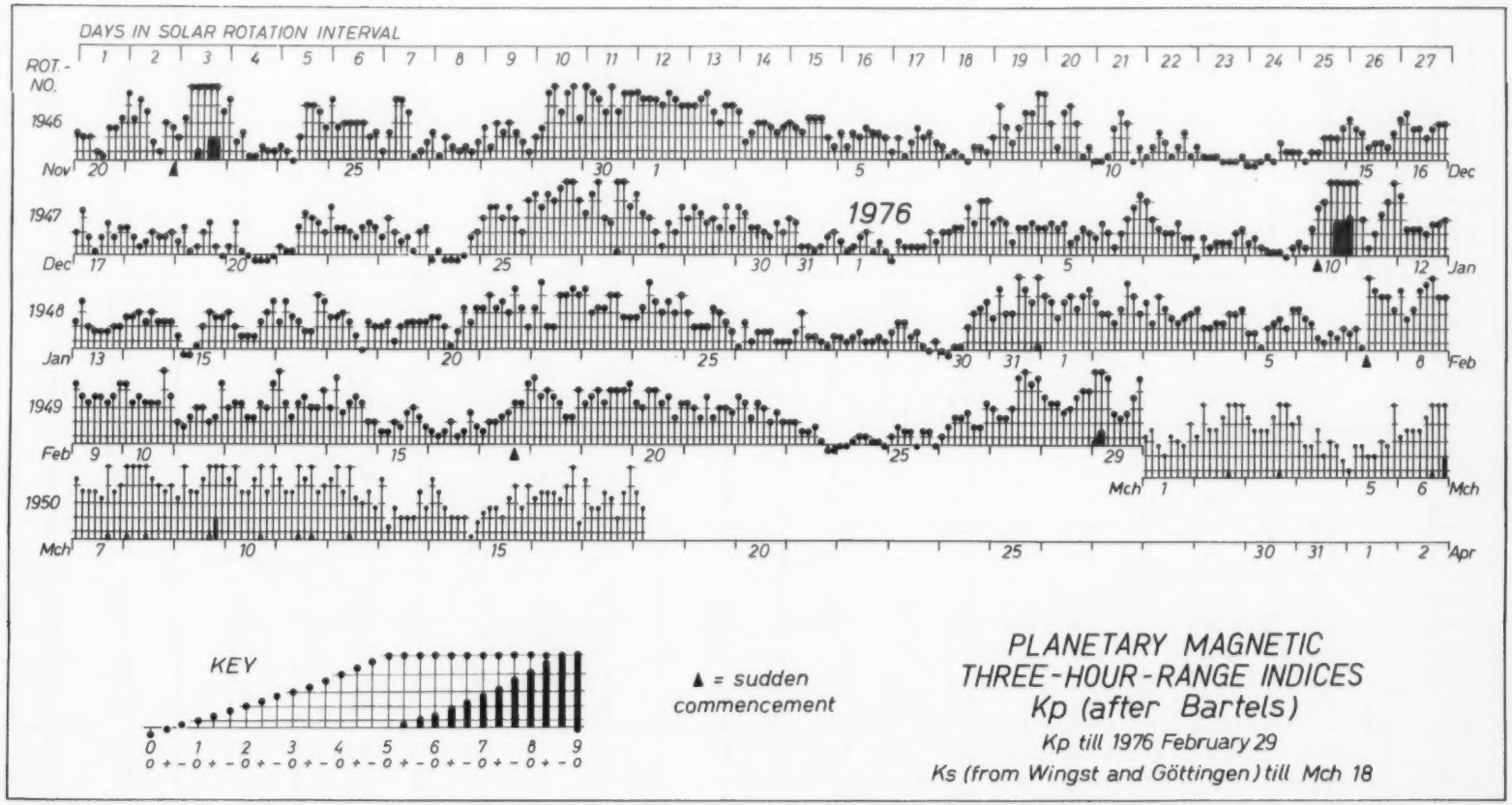
Day	Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa				Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M		
1		4	4-	3-	4-	4	3+	4	4+	30-	3	3-	2+	3	3+	3+	4	3+	23	38	29	28	39		1.1
2		4-	3	3	2+	3+	5-	4	3	27	3	3-	3-	2	3	4	3+	2+	20	35	32	22	45		1.0
3		4-	2+	4	3+	3-	2+	3-	3	24	3	2-	3+	3	3-	2	3	3-	16	26	30	32	23		0.9
4	Q	3+	2	2	2+	2+	3	3	3+	21+	3	2-	2-	2	2	3-	3	3-	12	29	20	21	29		0.7
5	Q	2-	2-	1-	2	2+	3-	2	3+	16+	1+	1	1-	2-	3-	3-	2	3	8	21	17	11	28		0.5
6	Q	3+	3-	2+	1+	1	2-	1+	2	16-	3	2+	2-	1	1+	2-	2-	2-	8	17	12	17	13		0.4
7		2-	2	1-	5	4+	4	4	3+	25	1+	1	1-	5-	4	4-	4-	3	21	42	31	24	50		1.1
8	D	4+	3-	3+	4+	5-	5	4	4	32+	3+	2+	3+	4+	4	5-	4	4-	29	52	54	44	62		1.3
9		4+	4-	3+	4-	4-	3+	4-	4+	30	4-	3-	3-	4-	3+	3	4-	4	24	36	43	37	41		1.1
10	D	4+	3+	4-	3+	3+	3+	5	4-	30	3	3	3-	3	3	3	4	3	24	44	28	31	42		1.2
11	Q	2	2-	2+	3	3	2	2+	4+	21-	1+	1+	2+	3-	3	2-	2+	4	12	26	24	18	32		0.7
12		3	3+	3+	2+	2+	3+	3	4+	25	2+	2+	3-	2-	2	3+	3-	4-	17	29	21	24	27		0.9
13		5	3+	2+	3+	4-	3	3	4	28-	5-	3-	2+	2+	3+	3+	3	4-	22	40	28	35	34		1.1
14		3	5-	3-	3+	4-	3+	2	2	25-	2+	4	2	3-	3+	3	2	2-	17	25	31	29	27		0.9
15	QQ	1+	1+	2	2-	3-	3	2+	2-	16	1+	1+	2	2-	3-	3-	2+	1+	8	18	16	12	23		0.4
16	QQ	1+	1	1+	2	1	1+	3-	2-	12+	1	1-	1	2-	2-	2-	2	1+	6	12	13	11	15	C	0.3
17		1+	2	2	2+	3-	3+	3+	4+	21+	1	1+	2-	3-	3-	3+	4-	4	14	29	32	16	45		0.8
18		5-	4-	4	4-	3+	2+	2+	4	28	4-	3	3+	3+	3+	3-	2+	3+	22	40	40	47	33		1.1
19	D	3+	4-	4	3+	4	4	4	4+	31-	3-	3	3+	3	4-	4-	4-	4-	25	44	34	36	47		1.2
20		3+	3	4	4	3+	4-	2+	3+	27	2+	3-	3+	3+	3	3+	2+	3	19	35	30	32	33		1.0
21		3+	3	2+	4-	2+	3	3	3-	23+	3-	2+	2	3+	3-	3-	3	2+	14	25	20	22	23		0.8
22		4-	3+	2+	3+	3	2	3-	2	22+	3-	2	2	3-	3-	2+	2+	2	14	26	17	25	19		0.8
23	QQ	2	2	1+	1+	2-	1-	0	0	9	1+	1+	1	1+	2-	1+	0+	0+	4	8	9	10	8	CC	0.1
24	QQ	0+	0+	1-	1	1	1-	1-	0+	5	0+	1-	1	1+	1	1	1	0+	3	7	7	7	7	CC	0.1
25	QQ	1	2-	1+	1+	0+	1+	1+	0+	9-	0+	1+	1+	1	0+	1+	1+	1-	4	10	8	10	8	CC	0.1
26	Q	1	2-	2+	2+	3-	2-	2-	3+	17-	1+	1+	2	3-	2+	1+	2	3	9	19	15	13	21		0.5
27	D	3	2+	2+	3	5-	5	4+	5-	29+	3-	2	2+	3+	5	5+	5-	4+	26	46	47	25	67		1.2
28		4-	3+	3+	3-	3	4-	4	4	28-	4-	3-	3	3-	3	3+	3+	4-	20	35	39	29	45		1.0
29	D	5+	6	5-	3-	2+	3-	4-	5-	32	4+	5-	4	3-	2	3-	4-	5-	34	55	48	61	43		1.3
																		Mean	16	29.9	27.0	28.5			0.81

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	3-	3	2+	3	3	4-	4-	3	3	3-	2+	3-	4-	3+	4	3+
2	3	3-	3-	2+	3+	4	3+	2+	3	2+	2+	2	3	4-	3+	2+
3	3	2	3+	3	3-	2	3	3-	3	2-	3+	3+	3-	2+	3	3-
4	3	1+	2-	2+	2	3-	3	3-	3	2-	2-	2	2+	3-	3	3-
5	1	1+	1-	2-	3-	3-	2-	3	2-	1-	1-	2-	3-	3-	2+	3+
6	3-	2+	2-	1+	1	2-	2-	2-	3+	3-	2	1	2-	2-	2-	2-
7	1+	1+	1-	5-	4	4-	3+	3-	1	1	1-	4+	4-	4-	4	3+
8	3+	2	3-	4+	4+	5	4-	4-	4-	3-	4-	5-	4-	5-	4+	4-
9	3+	3-	3-	4-	4-	3+	3+	4-	4-	3-	3-	4-	3+	3	4	5-
10	3	3	3-	3	3+	3-	4+	3	3	3-	3-	3	3	3	4-	3
11	1+	1+	3-	3-	3	2	3-	4	2-	2-	2-	3-	3-	2-	2	4-
12	2	2+	3-	2	2	3	3-	4-	2+	2	2+	2-	2	3+	3	4-
13	5-	3	2	3-	4-	3+	3-	3+	4+	3-	2+	2+	3+	3	3+	4
14	2+	4+	2	3-	3+	3	2-	2-	3-	4-	2	2+	4-	3+	2+	2
15	1	1+	2	2	3-	3-	2+	1+	2-	1+	2-	1+	3-	3-	2	2-
16	1-	1	1-	2-	2-	2-	2	1+	1	1-	1	1+	2-	2-	2+	2-
17	1	1+	2-	3-	3-	3+	4	4	1+	2-	2	3-	3	3+	3+	4
18	4-	3	4-	4-	3+	3-	2+	3+	4-	3+	3+	3	3+	3-	2+	3+
19	3-	3+	3+	3	4	4-	4-	3+	3-	3-	4-	3+	4-	3+	4-	4-
20	2+	2+	3+	4-	3+	3+	3-	3-	2+	3-	3	3-	3	3+	2+	3
21	3-	2+	2+	3+	3	2+	3	2+	3-	3-	2-	3	2+	3-	3	2+
22	3-	2+	2	3	3-	2+	2	2	3-	2	2	3-	3-	2+	2+	2-
23	1+	1+	1+	2-	2	1+	0	0+	1+	1+	1	1+	1+	1+	0+	1-
24	0	0+	1-	1	1+	1	1	0	1-	1	1+	1+	1	1-	1	1-
25	0+	1	1+	1	0	2-	2-	0	1-	1+	1+	1+	1-	1+	1+	1
26	1	1+	2+	2+	2+	1+	2-	3-	1+	1	2-	3	2+	2-	2	3
27	3-	2-	2+	3	5+	5+	4+	4	3-	2	2+	3+	5-	5	5	5-
28	4	3-	3-	3-	3	3+	3+	3+	3+	3-	3	3	3	3	3+	4-
29	4+	5-	4	3-	2	3-	3+	4	5-	4+	4-	3-	2	2+	4-	5

DAILY AVERAGE INDICES Ap

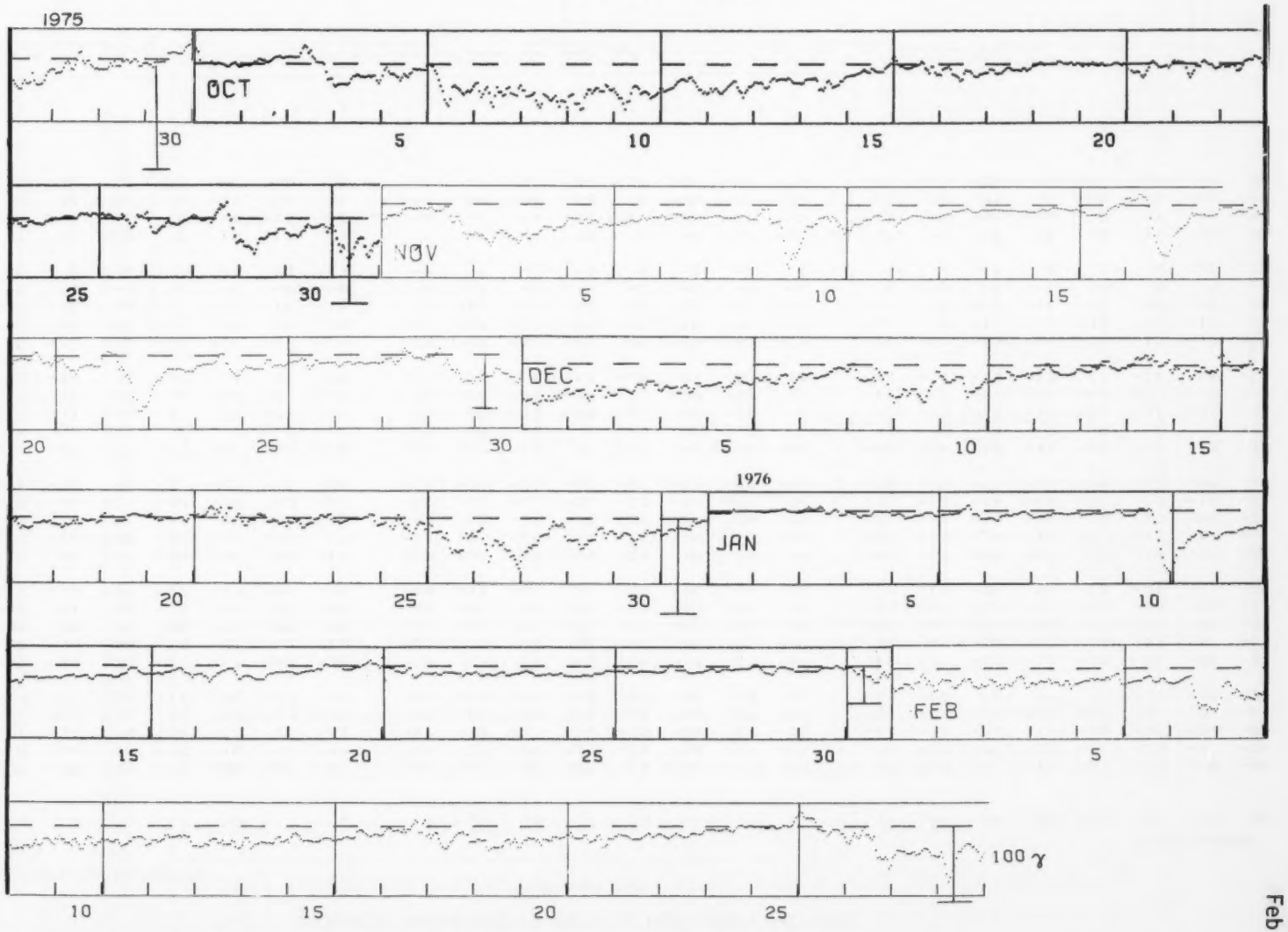
DAY	1975 MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1976 JAN	FEB
1	21	7	6	24	12	9	7	6	7	32	4	23
2	10	5	16	28	6	7	6	2	36	27	4	20
3	11	6	19	12	7	5	3	11	65	12	15	16
4	9	7	14	11	6	6	3	9	41	13	10	12
5	30	10	34	12	5	29	4	6	22	8	9	8
6	20	15	35	11	6	7	13	25	11	7	13	8
7	3	25	22	6	12	5	7	38	10	4	11	21
8	2	32	14	4	37	14	6	45	7	18	5	29
9	8	52	16	5	35	15	24	37	37	16	4	24
10	80	35	19	4	17	15	26	24	20	8	47	24
11	53	34	2	14	18	7	26	8	13	5	40	12
12	37	27	3	27	5	4	19	12	9	3	13	17
13	29	29	6	14	10	5	17	7	4	3	9	22
14	29	21	14	8	13	16	13	9	3	6	11	17
15	20	7	3	13	15	18	8	5	4	9	7	8
16	27	6	28	17	12	5	6	10	6	14	10	6
17	13	5	14	12	14	9	13	8	17	9	14	14
18	17	6	7	12	15	6	14	4	7	6	9	22
19	11	5	15	12	9	4	8	3	8	6	8	25
20	14	25	23	6	6	15	7	5	9	3	11	19
21	3	23	12	9	6	17	6	6	18	9	20	14
22	6	15	11	5	6	12	4	6	50	10	23	14
23	13	25	8	4	6	10	4	7	8	7	20	4
24	14	17	5	3	6	6	2	4	13	2	21	3
25	8	8	14	4	33	9	3	4	15	18	10	4
26	17	9	18	5	19	5	14	5	14	34	5	9
27	34	5	10	4	11	6	14	5	5	31	6	26
28	38	3	5	4	10	5	8	9	9	15	5	20
29	22	2	11	26	4	27	5	12	29	15	6	34
30	10	6	6	22	5	14	2	9	36	11	9	
31	13		4		5	6		19		7	29	
MEAN	20	16	13	11	12	10	10	12	18	12	13	16

GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst



Note the changes in sensitivity as well as the changing 0 reference level.

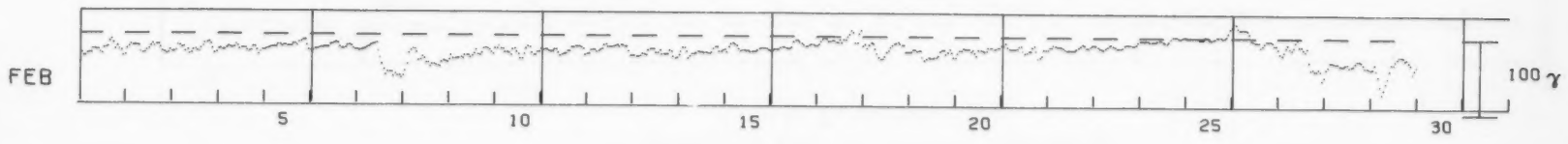
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

FEBRUARY 1976

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-25	-30	-30	-26	-25	-25	-20	-21	-22	-22	-25	-27	-19	-18	-17	-10	-7	-13	-21	-16	-21	-23	-30	-28
2	-20	-17	-14	-16	-15	-16	-17	-24	-26	-25	-22	-20	-16	-13	-17	-14	-14	-19	-24	-25	-27	-25	-21	-24
3	-24	-21	-14	-16	-18	-17	-24	-21	-27	-25	-21	-20	-23	-23	-19	-16	-12	-11	-10	-14	-20	-26	-24	-20
4	-19	-21	-21	-18	-16	-18	-19	-17	-13	-16	-20	-18	-18	-19	-22	-23	-21	-16	-17	-21	-27	-22	-20	-20
5	-19	-18	-17	-16	-16	-16	-13	-14	-16	-14	-15	-16	-15	-15	-12	-12	-15	-10	-9	-7	-7	-15	-21	-22
6	-21	-19	-19	-18	-17	-17	-16	-16	-16	-13	-12	-11	-10	-12	-17	-19	-19	-17	-14	-13	-15	-18	-20	-20
7	-21	-20	-19	-18	-16	-15	-13	-12	-11	-10	-21	-30	-39	-46	-53	-49	-49	-49	-55	-51	-54	-53	-57	-53
8	-47	-38	-24	-20	-18	-19	-23	-34	-32	-28	-31	-37	-37	-42	-38	-38	-40	-41	-42	-35	-33	-35	-36	-32
9	-26	-31	-31	-30	-30	-29	-31	-26	-26	-27	-30	-27	-24	-19	-26	-27	-23	-17	-16	-18	-20	-23	-25	-17
10	-17	-13	-18	-19	-22	-23	-24	-26	-18	-17	-22	-25	-31	-31	-24	-17	-14	-16	-24	-26	-26	-22	-21	-18
11	-20	-18	-18	-21	-22	-21	-18	-19	-23	-27	-25	-24	-23	-20	-21	-15	-15	-14	-15	-14	-16	-18	-26	-24
12	-23	-19	-18	-19	-22	-20	-18	-17	-12	-11	-15	-15	-15	-14	-13	-12	-15	-12	-14	-15	-15	-21	-27	-27
13	-27	-28	-28	-26	-23	-25	-26	-19	-17	-17	-18	-23	-22	-19	-25	-25	-24	-24	-19	-21	-28	-30	-28	-25
14	-20	-15	-15	-21	-30	-26	-23	-24	-22	-20	-22	-21	-23	-21	-23	-24	-21	-16	-14	-14	-21	-20	-18	-17
15	-21	-14	-10	-9	-11	-13	-17	-20	-18	-19	-20	-19	-21	-20	-20	-21	-18	-16	-15	-16	-16	-17	-19	-20
16	-20	-17	-17	-18	-15	-14	-14	-16	-17	-17	-14	-7	-5	-5	-8	-10	-12	-14	-13	-11	-10	-11	-13	-12
17	-10	-6	-3	-2	-4	-7	-7	-5	-6	-8	-9	-4	-8	-4	-5	0	3	8	5	-9	-8	4	8	-13
18	-10	-16	-11	-8	-10	-17	-23	-28	-30	-29	-26	-20	-18	-14	-11	-9	-8	-7	-10	-12	-11	-21	-21	-21
19	-20	-17	-17	-20	-18	-19	-27	-32	-29	-27	-29	-29	-27	-28	-25	-19	-17	-17	-24	-20	-16	-21	-28	-27
20	-21	-18	-18	-15	-17	-17	-17	-20	-17	-21	-25	-17	-18	-19	-20	-18	-14	-15	-15	-17	-15	-14	-15	-11
21	-11	-8	-14	-16	-17	-16	-17	-15	-12	-11	-18	-21	-20	-18	-18	-13	-11	-18	-28	-26	-24	-16	-17	-17
22	-13	-13	-10	-12	-13	-13	-14	-15	-17	-18	-17	-17	-17	-18	-15	-13	-11	-9	-11	-14	-14	-12	-10	-10
23	-11	-13	-15	-16	-17	-14	-12	-10	-9	-12	-13	-15	-15	-15	-13	-10	-9	-10	-10	-11	-11	-9	-6	-4
24	-5	-5	-4	-4	-6	-6	-6	-6	-4	-3	-4	-6	-7	-8	-5	-1	1	1	1	-1	-2	0	1	0
25	-1	0	0	0	-1	-1	-3	-3	-2	1	0	-3	-4	-2	-1	1	1	1	-1	0	2	6	12	14
26	19	17	12	10	10	10	10	9	5	-4	-5	-6	-7	-6	-13	-10	-7	-4	-4	-4	-6	-10	-10	-15
27	-21	-23	-18	-12	-9	-14	-16	-12	-5	-1	-12	-12	-15	-18	-13	-32	-42	-40	-44	-43	-40	-44	-56	-51
28	-40	-37	-31	-32	-33	-34	-34	-36	-37	-37	-34	-33	-38	-36	-35	-32	-29	-30	-31	-34	-38	-39	-40	-41
29	-39	-33	-41	-50	-63	-73	-66	-58	-51	-41	-33	-34	-29	-26	-23	-23	-25	-28	-26	-31	-34	-46	-40	-36



PRINCIPAL MAGNETIC STORMS

FEBRUARY 1976

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
CO	64.6N	7	09--	..	..	..	..	07(4) 08(5,6)	7	265	1830	1310	10	21
SI	60.0N	7	10--	..	..	..	..	07(5)	7	80	440	610	10	21
NE	55.1N	7	0928	..	..	..	..	08(4,5)	5	28	148	160	11	01
WI	54.2N	7	0929	SC*	+ 2 *	- 9 *	0	10(7)	6	38	170	80	10	24
BD	48.9N	7	09--	..	..	..	..	13(1)	5	25	118	63	15	01
TU	40.4N	7	0929	SC	- 1	+15	..	07(4)	5	10	140	20	11	02
AL	09.5N	7	0928	SC	- 1.3	9	- 2	07(4,5)	5	3	144	20	07	21
HO	07.6N	7	0928	SC	- 0.1	+ 9	- 1	07(4,5)	5	3	155	15	08	22
GU	04.0N	7	0928	..	..	..	..	08(4)	5	0	120	20	10	15
AN	01.5N	7	0923	SC	- 0.4	12	6	--	-	3	157	50	07	21
HU	00.6S	7	0928	SC	..	10	2	07(5,6)	5	9	182	59	10	05
TV	01.1S	7	0928	SC	0.0	11	9	--	-	2	168	75	07	21
PM	18.7S	7	0929	SC	+ 0.2	+11	+ 8	08(4)	5	7	90	60	11	16
HR	33.7S	7	09--	..	..	..	..	07(4,7) 08(4,6,7) 09(8)	5	14	116	101	09	24
GN	43.2S	7	0927	SC*	+ 1	+16	+ 2	08(4,6)	5	15	90	120	09	16
TO	46.7S	7	0928	SC*	- 1.2*	+17 *	- 4	8(4,6) 9(4)	5	22	130	50	10	00
KG	56.5S	7	0928	SC	..	..	..	07(5)	6	--	--	--	09	03
HO	07.6N	9	0500	..	..	..	..	09(5,6) 10(4,5,7)	4	2	64	15	10	23
HU	00.6S	12	1227	..	..	..	..	12(6)	5	7	149	28	14	22
NE	55.1N	17	16--	..	..	..	..	18(3,4) 19(3) 21(4)	5	36	94	70	21	14
AL	09.5N	17	12--	..	..	..	..	17(7)	5	3	72	22	18	24
HO	07.6N	17	1000	..	..	..	..	17(7)	5	4	81	13	19	23
AN	01.5N	17	12--	..	..	..	..	--	-	8	119	51	18	24
TV	01.1S	17	12--	..	..	..	..	--	-	4	136	99	18	24
CO	64.6N	19	05--	..	..	..	..	19(3,4,5) 20(4,5)	6	95	1320	510	20	20
HR	33.7S	19	19--	..	..	..	..	19(7)	5	8	41	33	19	22
NE	55.1N	26	0516	..	..	..	..	27(6) 29(2,3)	-	53	202	186	04	04
FR	49.6N	26	22--	..	..	..	..	27(5,6,8) 29(1,2,8) 01(2) 02(2) (3(4)	5	23	150	83	04	04
HU	00.6S	26	1310	..	..	..	..	27(6,7)	6	7	220	45	01	06
CO	64.6N	27	05--	..	..	..	..	27(5,6)	7	173	1490	1030	01	19
SI	60.0N	27	08--	..	..	..	..	29(2)	7	80	920	610	01	18
WI	54.2N	27	11--	..	..	..	..	28(7)	6	26	155	105	29	08
BD	48.9N	27	14--	..	..	..	..	29(2)	6	32	110	46	04	16
TU	40.4N	27	05--	..	..	..	..	27(6) 29(1,2,3,8)	5	15	110	25	01	15
AL	09.5N	27	08--	..	..	..	..	27(6,7)	5	4	127	11	28	00
HO	07.6N	27	0900	..	..	..	..	27(6)	6	3	127	21	29	24
GU	04.0N	27	0838	..	..	..	..	27(6)	5	0	120	10	29	12
AN	01.5N	27	08--	..	..	..	..	--	-	2	120	42	28	00
TV	01.1S	27	08--	..	..	..	..	--	-	1	125	81	28	00
PM	18.7S	27	05--	..	..	..	..	27(5,6)	5	5	110	40	02	01
HR	33.7S	27	12--	..	..	..	..	27(7)	6	17	86	98	27	24
GN	43.2S	27	07--	..	..	..	..	27(6)	6	16	160	70	01	09
KG	56.5S	27	09--	..	..	..	..	27(7)	6	--	--	--	01	03
HO	21.9N	28	17--	..	..	..	..	29(2)	5	4	95	12	29	--
AL	09.5N	28	06--	..	..	..	..	29(2,3)	5	3	52	26	29	23
AN	01.5N	28	06--	..	..	..	..	--	-	2	72	58	29	23
TV	01.1S	28	06--	..	..	..	..	--	-	2	87	45	29	23
HR	33.7S	29	18--	..	..	..	..	29(8)	5	16	67	78	03	05

Reports were received from the following observatories:

College Newport Fredericksburg Tucson Honolulu Hyderabad Annamalainagar Trivandrum Hermanus Toolangi
Sitka Witteveen Boulder San Juan Alibag Guam Huancayo Port Moresby Gnangara Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

FEBRUARY 1976

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romañá)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

07 0928 B: SO DO FU PM HU LM KG; C: VI CF MT KA SS KY SZ DU

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

n o n e

Very unusual events

n o n e

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

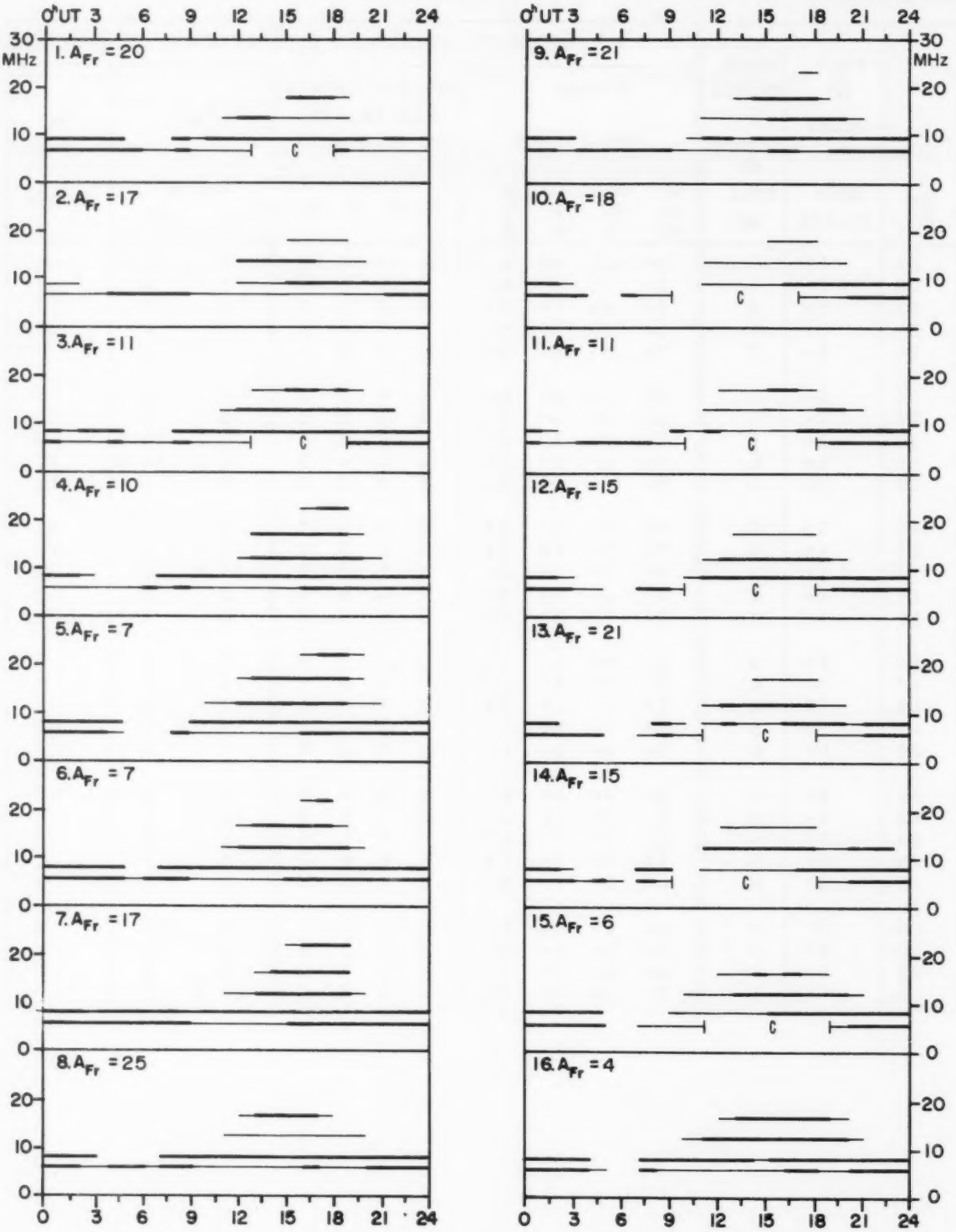
FEBRUARY 1976

North Atlantic

FEB 1976	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								GEOMAGNETIC INDICES		
			6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K_{FR}		A_{FR}
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	HALF DAY (1)	HALF DAY (2)	OBSERVED
01	6-	6	6-	5o	6o	6-	4	4	5	5	3	(4)	20
02	5+	6	5+	4o	6-	6-	5	4	5	5	3	3	17
03	5+	6	6-	4+	7-	5+	5	5	5	5	3	2	11
04	5+	6	5+	5o	6o	5+	5	5	5	5	3	2	10
05	6-	5	5+	5o	6+	5+	5	5	5	6	1	2	7
06	5+	5	5+	5o	6o	6-	5	5	5	6	2	1	7
07	6-	5	6o	5+	6o	5+	5	5	5	5	3	3	17
08	6-	5	5o	6-	6o	6o	4	4	5	5	3	(4)	25
09	6-	5	5+	6-	7-	6o	4	4	4	5	(4)	(4)	21
10	5+	5	5o	5+	6-	5o	5	5	5	5	3	3	18
11	5+	5	5-	6-	6o	5+	5	5	5	6	2	3	11
12	5+	5	5o	5-	6+	5+	5	5	5	6	3	3	15
13	5+	5	5+	5o	6-	5o	5	5	5	5	(4)	3	21
14	5+	5	5-	6-	6-	5+	5	4	5	4	3	3	15
15	5+	6	5+	5+	5+	5+	5	5	5	5	2	2	6
16	5+	6	6-	5o	6-	5+	5	5	5	5	2	1	4
17	5+	6	5o	5o	6o	6-	5	5	5	6	2	3	9
18	5o	6	5o	4+	5+	5+	5	5	5	5	3	3	15
19	5+	5	5-	5-	6o	5+	5	4	5	5	(4)	3	18
20	5+	5	5+	4+	6-	6-	5	5	5	5	3	3	17
21	5+	5	5o	5+	6o	6-	5	5	5	5	3	3	12
22	6-	6	6-	5+	5+	6o	5	5	5	5	3	2	10
23	6-	6	6-	5o	6o	6o	5	5	6	6	2	0	3
24	6o	6	6o	5+	7-	6+	6	6	6	6	1	0	2
25	6o	6	6o	6-	7-	6+	6	6	6	6	2	0	3
26	6o	6	6+	5o	6+	6+	6	5	6	6	2	2	9
27	6-	5	7-	6-	6-	5+	6	5	5	5	3	(5)	28
28	5+	5	5+	6-	5o	6-	4	4	5	5	3	3	17
29	5-	5	5o	3+	5o	5+	5	4	5	5	(4)	3	27

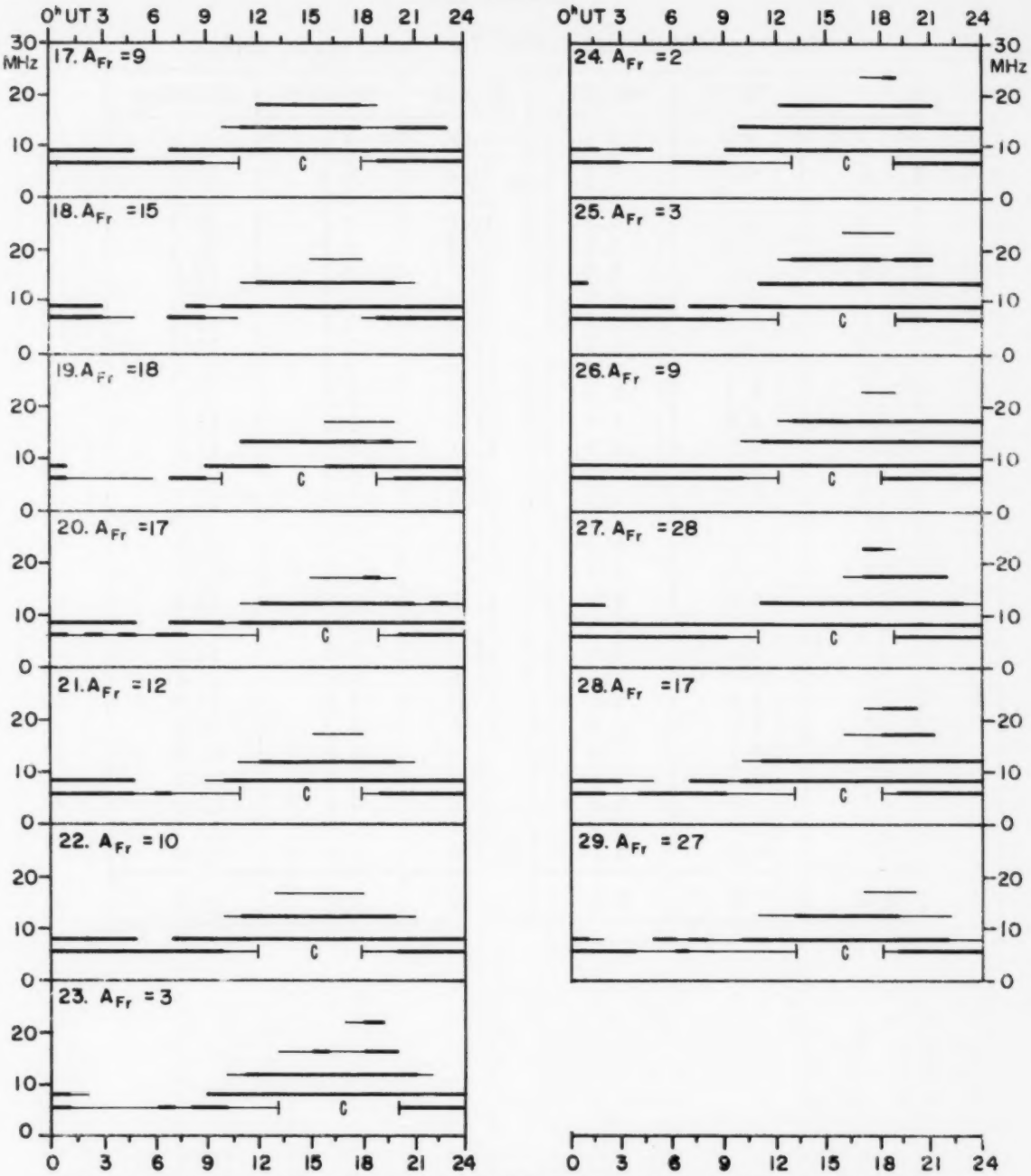
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1976



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1976



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

FEBRUARY 1976

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MOSCOW	CANBERRA	BRACKNELL
1	4.4	4.2	11.0	3.3	12.8
2	4.6	4.9	11.2	4.0	13.3
3	3.9	5.7	10.8	3.8	13.5
4	5.1	5.8	11.0	3.7	12.9
5	4.8	5.8	11.2	3.6	13.4
6	4.7	6.0	10.7	3.7	13.5
7	4.9	6.0	10.7	4.1	13.7
8	4.9	5.6	10.6	3.4	13.0
9	4.7	4.4	11.1	3.0	12.3
10	4.5	4.2	11.3	3.3	11.9
11	4.7	4.8	10.6	3.5	12.1
12	4.8	4.4	11.0	3.3	11.7
13	4.5	3.9	11.1	3.6	11.1
14	4.2	5.2	10.6	3.3	11.5
15	4.6	4.3	10.8	3.6	11.7
16	5.1	5.9	11.7	3.6	12.2
17	4.9	6.2	11.6	3.5	13.2
18	4.7	4.7	11.2	3.9	12.2
19	4.8	4.9	11.1	3.5	12.9
20	4.5	5.8	11.8	3.5	12.8
21	5.2	5.5	11.4	3.9	13.3
22	5.7	5.1	11.6	4.2	13.2
23	5.9	6.1	10.9	4.0	13.0
24	5.9	7.4	12.4	4.3	13.6
25	6.1	7.9	12.9	4.8	13.9
26	6.7	7.9	12.6	5.3	13.6
27	5.8	6.0	12.1	4.4	13.1
28	5.4	5.9	12.0	3.9	13.5
29	4.5	5.1	10.3	3.7	12.8
MEAN	5.0	5.5	11.3	3.8	12.8

SOLAR WIND

Interplanetary Scintillations

FEBRUARY 1976

UCSD 74 MHZ SCINTILLATIONS

DAY	3C48 VEL	3C48 ERR	3C144 VEL	3C144 ERR	3C147 VEL	3C147 ERR	3C161 VEL	3C161 ERR	3C237 VEL	3C237 ERR	3C273 VEL	3C273 ERR	3C298 VEL	3C298 ERR	3C459 VEL	3C459 ERR
1	223	40					375	28							182	57
2	203	19														
3							265	*					434	*		
4															248	24
5	257	70	384	56	188	10									238	24
6	224	68	307	15											197	49
7	264	14														
8	272	2	521	68											244	*
9	285	*													221	73
10	205	23													219	*
11	203	*													278	23
12	156	53														
13			494	110												
14	260	20													198	11
15	376	23													265	41
16	440	14	436	78											360	*
17	545	*														
17			308	36	306	14										
18	358	*			433	*	283	*			598	*	916	*		
19	354	72					227	*								
20	201	48													200	62
21			560	137												
22	299	60	271	*												
23	433	*														
24	247	49	261	105			279	21								
25	290	44	295	1			315	30								
26	324	48	484	108			299	37								
27	287	50	494	26	345	31										
28	376	31									490	112				
29	276	81	497	*							561	140				

FEBRUARY	5 UT	LAT	DIST	DLON	15 UT	LAT	DIST	DLON	25 UT	LAT	DIST	DLON
3C48	1.	1.	0.99	-16.	24.	1.	0.94	-18.	23.	5.	0.87	-27.
3C144	4.	-5.	1.21	-11.	4.	-6.	1.17	-13.	3.	-6.	1.13	-15.
3C147	4.	0.	1.20	-9.	3.	0.	1.17	-11.	2.	0.	1.13	-13.
3C161	6.	-12.	1.22	-8.	5.	-13.	1.20	-10.	5.	-13.	1.17	-12.
3C237	9.	-7.	1.29	3.	9.	-7.	1.30	1.	8.	-7.	1.30	-1.
3C273	11.	-5.	1.22	11.	11.	-5.	1.25	9.	10.	-6.	1.27	7.
3C298	13.	-1.	1.12	14.	13.	-2.	1.16	13.	12.	-2.	1.20	11.
3C459	22.	10.	0.58	-52.	21.	15.	0.44	-61.	21.	26.	0.29	-67.

* indicates data for which no error estimate is available, because only two antennas were operating.

Errata: This table replaces the one published last month on page 17. The values for radio source 3C48 have been changed.

USCOMM-NOAA-ASHEVILLE-4-76-950

AMERICAN REVOLUTION BICENTENNIAL
1776-1976